# Measuring Quality in the Service Industry

by

Hamed Abdallah Al-Saggaf

A Thesis Presented to the

FACULTY OF THE COLLEGE OF GRADUATE STUDIES

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

DHAHRAN, SAUDI ARABIA

In Partial Fulfillment of the
Requirements for the Degree of

**MASTER OF SCIENCE**

In

**CONSTRUCTION ENGINEERING AND MANAGEMENT**

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**DEANSHIP OF GRADUATE STUDIES**

This thesis, written by Hamed Abdallah Al-Saggaf under the direction of his Thesis Advisor and approved by his Thesis Committee, has been presented to and accepted by the Dean of Graduate Studies, in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN CONSTRUCTION ENGINEERING AND MANAGEMENT.

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كلية الدراسات العليا
COLLEGE OF GRADUATE STUDIES

*This thesis is dedicated to my parents and to my wife.*

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| التخصص | : | هندسة وإدارة التشييد |
| تاريخ الشهادة | : | ١٩٩٩/٠٦/٠١ |



يختلف قطاع الخدمات عن قطاع الصناعة بعدة أمور أساسية ، وعليه فإن الحاجة ماسة للبحث في هذا القطاع في المملكة العربية السعودية للدخول في مرحلة جديدة من مراحل التنافس المحموم في عصر العولمة حيث تتلاشى الحدود وتفتح الأسواق. ويأتي مفهوم الجودة في مقدمة كل الأفكار والأعمال الحديثة .

إن أدوات قياس الجودة مهمة جداً عندما تستخدم دورياً لمتابعة اتجاهات جودة الخدمة في المنشآت ومنها تتعلم المنشأة عن جودة الخدمة وما ينبغي عمله لتحسينها وذلك من خلال تحليل شكاوي واقتراحات العملاء. إن مشكلة الجودة الرئيسية ناتج عن التباين بين توقعات العملاء وأداء المنشأة للخدمة. وعليه فان على مقدم الخدمة تحديد متطلبات عملائه وتحويل هذه المتطلبات إلى مواصفات ينعكس على الأداء.

يتناول هذا البحث دراسة جودة الخدمة في إحدى الشركات الخدمية بالمملكة العربية السعودية (كهرباء الشرقية). وقد أظهرت الدراسة تفوق كهرباء الشرقية في جودة المباني وصالات الاستقبال وتراجعاً طفيفاً في جودة الاستجابة والموثوقية. وعلى الرغم من كون جودة الخدمة مقبولاً لدى جميع أصناف العملاء إلا أنه كان هناك تبايناً في تقييم الجودة حيث كان أقل تقييم من عملاء الشركة ذوي طلبات التقوية والحمل التجاري ، كما أن فجوة الأداء (أو ما يعرف بفجوة رقم ٣) كانت الأحرج من بين الفجوات الإدارية الأربع الأخرى في التأثير على الخدمة مما يعني أن التحسين يجب أن يكون منصباً على تطوير عملية تقديم الخدمة للعملاء.



**درجة الماجستير في العلوم**

**جامعة الملك فهد للبترول والمعادن**

**الظهران ـ المملكة العربية السعودية**

# THESIS ABSTRACT


| | |
|---|---|
| **FULL NAME OF STUDENT** | **HAMED ABDALLAH AL-SAGGAF** |
| **TITLE OF STUDY** | **MEASURING QUALITY IN SERVICE INDUSTRY** |
| **MAJOR FIELD** | **CONSTRUCTION ENGINEERING & MANAGEMENT** |
| **DATE OF DEGREE** | **JUNE, 1999** |



The service industry is, in certain key respects, different from the manufacturing industry. A need exists for service research in Saudi Arabia so that industry is in a position to enter a new stage of high competition in the era of globalization where limits no longer exist and new markets are opening all the time. The value of "quality" in its most general sense is in the forefront of all areas of modern business thinking.

SERVQUAL, a quality measurement instrument, is most valuable when it is used regularly to track service quality trends. The organization would learn about service quality and what needs to be done to improve it by analyzing the survey and customer suggestions and complaints. Quality problems in the service organization are the result of the mismatch between prior expectation and perceived quality of the service. Each organization will attempt to determine the requirements of its customers and translate these requirements into product and delivery process specifications.

This research examines a particular electric company (SCECO-East), a typical service provider in Saudi Arabia, in which service quality is a distinguishing feature of primary importance. The study revealed that SCECO-East scored high in tangibles dimension but low in features of responsiveness and reliability. In addition, while the performance of SCECO-East was acceptable to all customer categories, service quality was perceived differently by various types of customers, with reinforcement and commercial customers awarding SCECO even lower ratings than other customers did.

Gap 3 (service performance gap) is more critical than the others four managerial gaps in affecting perceived service quality, making service delivery the main area of improvement.



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# CHAPTER # 1

# INTRODUCTION

## 1.1 Problem Statement

Juran(1988) defines services as "service is work performed for some one else." Service quality, according to Juran, is the same as for product quality: "Fitness for use".

The customer should determine what aspects of the service are the most beneficial rather than the service provider dictating these aspects [6].

TQM assumes that continuous process improvement (the Deming plan-do-check-act cycle) leads to continual customer satisfaction, which in turn leads to a more productive and profitable organization. Service quality has been defined in terms of customer satisfaction: the degree of alignment between customers' expectations and their perception of the service received [8]. So, it is necessary to discover the customer's real requirements. Focusing on these key service issues will be reflected in customer satisfaction. An essential aspect of managing service quality is the identification of client expectations and, then, designing the service system to focus on these requirements.

Service quality is considered a critical determinant of competitiveness. Service quality can help an organization to differentiate itself from other organizations and gain a competitive advantage. Superior service quality is a key to improved profitability.

The intangible nature of services has obstructed the advancement of the field of service quality. Whereas manufactured products are amenable to sampling, gauging and measurement of various types, services are less so.

The electrical utilities industry, as with many of the public agencies in Saudi Arabia, is not a competitive industry. Saudi Consolidated Electric Company in the Eastern Province (SCECO-EAST) is one of these utilities that hoped that it would be able to provide better service if it promoted a greater understanding of service quality issues in this industry.

SCECO-East applied TQM throughout the company. Management as well as employees are very happy with the results achieved (reducing cost, reducing cycle time of the processes). SCECO–East took matters a step further by applying Business Process Improvement (BPI)/Re-engineering. SCECO–East has established a considerable reputation for excellence in customer services. However, no investigation or evaluation has been made to test the effect of TQM on the external customers who are receiving the end product of SCECO-East services. In addition, no study has been conducted in Saudi Arabia to measure service quality. SERVQUAL is the methodology for measuring customers' perceptions of service quality. This is the first SERVQUAL survey conducted in Saudi Arabia to measure gaps in the perception of service quality between customers and the provider of the service. To measure the success of the theory as applied to SCECO-East, several quantifiable measurements were made by surveying SCECO customers and staff. The research covers a reasonable sample of SCECO-East customers and staff in the Eastern Province of the Kingdom of Saudi Arabia to conduct a service quality survey in a typical service firm.

The research thesis will report on what SCECO-East and their clients believe are the most important aspects in their transactions. Evaluating areas of concern to customers will help to examine the service delivery process for weak points. To improve services, it is important to determine performance standards the company has to achieve by identifying the customer's minimum requirements.

## 1.2 Purpose & Objectives

This research project describes a detailed survey and analysis in the light of the model put forward by Parasurman , Zeithaml and Berry . The purpose of the empirical study is to offer a conceptual framework summarizing the unique characteristics and problems of services, to report the findings of a national survey conducted to measure service quality in a service firm, to review potential problems from an empirical study and to offer recommendations for the development of TQM programs in the service industry.

The main goal of the research is to review the progress made by SCECO-East after the decision to introduce the TQM program in 1994. The research will measure the five gaps in perceptions, including the gaps within the service provider, within the client and between each party (service quality gap model). Recommendations regarding each of the gaps will be proposed after analyzing the collected data.

**The primary objective** of the research is to investigate the quality shortfall within the SCECO-East organization and between SCECO-East and its customers and then improve the understanding of the characteristics, structure and the performance of SCECO-East .

***The secondary objectives are listed as follows:***

1. To measure client expectations and perceptions of the service quality provided by SCECO-East .
2. To determine the relative importance of the features which constitute service quality from the perspective of client.
3. To ascertain the extent to which SCECO-East understands and meets these expectations.
4. To explore the ways in which SCECO-East may identify and exploit opportunities to improve its services.

In this research, we examine a number of issues surrounding the SERVQUAL scale and report the results of the empirical study that was designed as an independent replication to assess service quality in SCECO-East.

## 1.3 Thesis Overview

This research is organized in six chapters. The first chapter presents the problem statement, research purpose and objectives. The second chapter briefly presents SCECO-East methodology in implementing Total Quality Management. The third chapter is a review of the literature which is divided into 10 sections. The first section includes characteristics and classification of the service industry and ways in which it is different from the manufacturing industry. The second section considers the application of quality programs in the service firms and implementation difficulties. In the following sections (3,4,5,6,7 and 8), the major elements in measuring service quality are discussed namely: dimensions of quality , service delivery, customer socialization, expectations and perceptions. Section 9, presents a description of the Gap conceptual model and its application for assessing and improving

service quality. In section 10, a description of the SERVQUAL instrument and its application in the operationalization of service quality measures are presented. The fourth chapter describes the methodology of collecting data, arranging a sample selection and distributing the questionnaires. In the fifth chapter, the results of the data analysis are discussed and key findings are reported. Finally, the sixth chapter provides conclusions and recommendations for future studies.

# CHAPTER # 2

# IMPLEMENTATION OF TQM AT SCECO-East

## 2.1 The Company

Saudi Consolidated Electric Co. in the Eastern Province is the largest electrical utility in Saudi Arabia. It was established on 23rd August 1976, consolidating the 26 small local companies previously generating power individually in different cities in the Eastern Province. It serves the Eastern region from Hafr al-batin and its villages north to Salwa on the Qatar border, and from the Arabian Gulf east to the border of central province.

The main system's peak demand for 1417 H. was 7703 MW. Generation capacity amounted to 8773 MW, including 1591 MW contributed by the Saline Water Conversion Corporation (SWCC). Power generated by the company's plants amounted to 33,414 GWH, while additional energy amounting to 13,479 GWH was imported from SWSS [3].

SCECO-East provides services to its customers throughout the Eastern Province via three Operating Areas(OAs),namely: Dammam Operating Area(DOA), Al-Hassa Operating Area(HOA) and Northern Operating Area(NOA).In 1417 H., power was supplied to 28,938 new customers. This figure, representing a 5% increase over the previous year, has brought the total number of customers by the end of 1417 to 484,566. The geographical distribution of customers is: 55% belong to Dammam Operating Area (DOA) , 27% belong to Al-Hassa Operating Area (HOA), and 18% belong to Northern Operating Area (NOA) [3] .

The percentages of power consumption by customer type are: Saudi Aramco 27%, Industrial 24%, SCECO-Central 20%, Residential 18%, Government 7% and Commercial 4%.

The percentages of sales are 53% for the industrial sector, 29% for the non-industrial sector, and 18% for SCECO-Central, bringing total power sales in 1417 H. to 41,388,919 MWH.

Total manpower in 1417 H. was 6812 employees. Saudi employees constitute 77% of the total (5270 employees).

## 2.2 Basis of Selection

SCECO-East was chosen as a subject for investigation since it meets several criteria:

1. It provides a very important service i.e. safe and reliable power to its customers, so it is a typical service provider.
2. It has a very large client base that demands electric power, so SCECO-East quality service will have a great effect.
3. It is desirable to check the effect of the newly introduced TQM on both staff and the client.
4. It will reveal the applicability of conceptual model of analysis to the industry.

## 2.3 SCECO-East TQM Methodology

***SCECO-East introduced TQM to achieve the following objectives:***

1. To improve the quality of services to the customer (internal and external) and reduce process cycle time and cost.

2. To create an environment that fosters continuous improvement.
3. To optimize activities that are value added to the internal (employees) and external (consumers) customers.
4. To create an environment of employee satisfaction and high morale.
5. To provide a strategy for involving all employees in continuous process improvement.
6. To consider improved process-based performance measures.

***SCECO-East prepared TQM program in three phases:***

- **Phase-I:** Pilot implementation in Operating Areas Business line for one year. 24 quality improvement teams were formed.

- **Phase-II:** TQM expansion throughout SCECO-East where it was introduced to all departments in the company by forming a minimum of 2 teams in each department. The duration of this phase was 2 years

- **Phase-III:** Business process improvement/re-engineering methodology to improve SCECO's major business process where the quality improvement teams chose a wider process which went over different departments.

A simple methodology called PACE (People Achieving Corporate Excellence) is used to improve small processes with limited scope. PACE is an acronym of 4 words: Pick, Analyze, Create and Enact, the main stages for project/process improvement, which are explained here briefly:

**1. Pick a Project**

- Define the work process

- Establish customer requirements
- Brainstorm customer requirements
- Gain management approval

**1.2. Analyze the Opportunities**

- Collect Process Data
- Determine root cause

**1.3. Create the Improvements**

- Brainstorm Improvements
- Develop cost-benefit analysis
- Create implementation plan
- Gain management approval

**1.4. Enact the Plan**

- Identify positive and negative forces
- Develop contingency plan
- Implement the improvements

# CHAPTER # 3

# LITERATURE REVIEW

## 3.1 Service Characteristics and Classification

The Service sector encompasses a diverse range of organizations which include [14] :

1) National and government (i.e. education and health ) .
2) Non – Profit private Services (i.e. mutual societies) .
3) Profit-making private services (i.e. utilities and airlines).

### 3.1.1 Characteristics of Service

Several characteristics differentiate the service industry from the manufacturing industry which must be acknowledged for a full understanding of service quality.

#### 1) Intangibility of Service

The fundamental difference is that most services are intangible. Services are performances, rather than objects, which cannot be seen, felt, tasted or touched in the same manner in which goods can be sensed. The lack of tangible attributes means that it is difficult for the producer to describe the service and for the consumer to ascertain its likely virtues [14]. Hence a firm finds it difficult to understand how consumers perceive its services and evaluate service quality [23]. Consumers often look for signs of quality (i.e. word of mouth , reputation) .

2) **Inseparability of Production and Consumption**

In Service industries, the provider performs the service at the same time as the full or partial consumption of the service takes place [14]. Whereas goods are first produced, then sold and finally consumed, services are first sold, then produced and consumed simultaneously [37]. The high visibility of the conversion process and the presence of the customer during the production of many services means that it is not possible to hide mistakes or quality shortfalls.

**3) Perishability of Services**

Services are perishable and cannot be stored in one time period for consumption at a later date. This means that, unlike manufactured goods, it is not possible to have a final check [14]. The service provider therefore needs to get the service right first time, every time.

Because services are performances that cannot be stored, service businesses frequently find it difficult to synchronize supply and demand [37]. In addition, the performance of service firms in responding fluctuates between low and high demand periods. Some firms are more aggressive in responding to low demand (by being more inclined to call on customers to try to increase business) as well as high demand periods (by being more likely to let employees work overtime) [37].

4) **Heterogeneity of Services**

Heterogeneity in service output is a particular problem for labor intensive services. It is difficult to produce services consistently and exactly. Since the behavior of the service provider influences the consumer's perception of quality , it is difficult to ensure consistency and uniformity of behavior .

The potential of high variability in the performance of services from producer to producer, from customer to customer, and from day to day makes quality assurance and control difficult. Service performance from the same individual may also differ. "People's performance day in and day out fluctuates up and down" [37].

Each unique characteristic of services leads to specific problems for service providers that are not faced by goods providers and necessitates special strategies for dealing with them [37].

The above literature discussed differences between goods and services. ZPB concluded from their findings that differences exist within service firms, not just between service firms and goods firms.

### 3.1.2 Service Classification

A service classification scheme is based on the nature of the service act and the degree of customization in service delivery. The four components of service quality (employee technical quality, employee functional quality, customer technical quality, customer functional quality) have varying levels of importance across different services. When these two dimensions are combined, it is possible to make generalizations about the relative importance of the components of service quality in various types of services.

For services with a high level of customization, employee technical quality and customer technical quality are both relatively important. This is due to the fact that in order to customize a service, it is generally necessary for service employees and

customer to exchange resources in the form of information or effort.

For services with a low level of customization, employees with technical quality becomes relatively important, while customer technical quality becomes relatively unimportant. When services are not customized there are limited resources required from the service customer, and the participatory role of the partial employee is negligible.

For Services that result in actions directed toward the service customer, employee functional quality and customer functional quality are relatively important. This is because this type of service generally requires direct contact between the employee and customer, placing importance on how the service encounter is conducted. The functional aspects of service quality are also important for services that are directed toward intangible things. This is due to the fact that these types of services generally have few tangible cues related to the core service, resulting in the customer placing greater emphasis on how the service is provided when service quality is evaluated. For services that result in actions directed toward tangible things, the functional aspects of service quality are relatively less important, because in this type of service, employee – customer contact is generally limited.

Services could also be categorized as high contact services (i.e. retail banking) and more tangible services (i.e. product repair) [23].

Based on differences in the service act, there is a set of service categories in terms of the nature and results of the service act (one of several two dimensional classification schemes proposed by Lovelock (1983)), business equipment repair and automobile repair would represent "tangible" actions directed at "Physical

possessions". Hotel services would represent "tangible" as well as "intangible" actions directed at "people's bodies and minds" and insurance would represent "intangible" actions directed at "Physical possessions and intangible assets" [37].

### 3.1.3 Difficulties of Services

Difficulties unique to services as the literature suggested [38]:

1) Services cannot be stored.
2) Services cannot be mass-produced.
3) Patents cannot be protected.
4) Service quality is difficult to control.
5) Service costs are difficult to calculate.
6) Demand for services fluctuates and,
7) Consumers themselves are involved during the service production process.

## 3.2 Quality in Services

### 3.2.1 Definition of Quality

Quality is an elusive and indistinct construct [38]. Olshavsky (1985) views quality as a form of overall evaluation of a product, similar in many ways to attitude [24]. Holbrook concurs, suggesting that quality acts as a relatively global value judgment [15]. The dictionary of psychology defines quality as: "The relative level of goodness or excellence of anything". Quality is "Zero defects – doing it right the first time" [23].

As can be seen the term "quality" means different things to different people. This why defining "quality" is the first step in

most quality improvement exercises [14]. Quality may be defined based on the following focuses:

**1) Customer focus**

Quality is defined by Deming and Juran as "Satisfying customer's requirements" or "fitness for purpose". This approach relies on the ability of the organization to determine the customer's requirements and then meet these requirements. The "customer – led" definition is probably most appropriate for organizations offering "high contact" or labor intensive services.

**2) Process or supply focus**

Crosby defined quality as "conformance to requirements". This definition lays emphasis on the importance of the management and control of supply side quality. The focus is internal rather than external [14]. This definition is useful for an organization offering a "Standard Service" involving low or short customer contact . Here the role of process is in determining the quality of the outcome.

**3) Value focus**

Quality is defined as "the cost to producer and the price to the customer" or as "meeting the customer's requirements in terms of quality , price , and availability" [14]. The approach implies that there is a trade – off between quality , price and availability . The focus again is the external .

### 3.2.2 Product Quality vs. Service Quality

While quality in tangible goods has been described and measured by marketers, quality in services is largely undefined and unresearched. Usually, efforts in defining and measuring quality service industry have come largely from the goods sector.

However, the knowledge about the quality of goods is not sufficient to understand service quality [23].

1) **Tangible Cues**
When purchasing goods, the consumer employs many tangible cues to judge quality: style, label, fit, color, hardness. However, when purchasing services, fewer tangible cues exist. Tangible evidence is limited to the service provider's physical facilities, equipment and personnel [23].

2) **Control of Quality**
Though marketers of tangible goods have defined and measured quality with increasing levels of precision, marketers of service experience difficulty in understanding and controlling quality [23]. Quality in services is not engineered at manufacturing plants, then delivered intact to the consumer. Most services cannot be counted, measured, inventoried, tested and verified in advance of sale to ensure quality delivery. Service quality is highly dependent on the performance of employees, an organizational resource that cannot be controlled to the degree tangible goods can be engineered. Furthermore, the performance of services – especially those with a high labor content – often differs among employees, among customers and from day to day [35]. Thus, because services are performances rather than objects, precise manufacturing specifications for uniform quality can rarely be established and enforced by the firm.

3) **Objective and Subjective Measure**
The conceptual meaning of quality distinguishes between mechanistic and humanistic quality [24]. "Mechanistic Quality" involves the objective aspect or feature of a thing or event, while "Humanistic Quality" involves the subjective

response of people to objects and is therefore a high relativistic Phenomenon that differs between judges [35]. Unlike the quality of goods, which can be measured objectively by such indicators as durability and number of defects, service quality is an abstract and elusive construct because of the unique features of services: intangibility, heterogeneity and inseparability of production and consumption [24].

In the absence of objective measure , an appropriate approach for assessing quality of the firm's service is to measure consumer's perceptions of quality . As yet, however, no quantitative yardstick is available for gauging perceptions.

**4) Outcome and Process of Service Delivery**

Quality evaluations are not made solely on the outcome (as the case of goods) of the service , they also involve evaluations of the process of service delivery (23].

In most Services, quality occurs during service delivery, usually in an interaction between the customer and contact personnel of the service firm [35]. Moreover, in most retail situations, the service encounter involves receipt of service and receipt of product whose quality is likely to be evaluated through use. In a pure service situation, such as an airline or a hospital stay, the customer is involved in a number of service encounters, and the quality of each might be evaluated [9].

**5) Evaluation of Quality**

Service quality is more difficult for the consumer to evaluate than of the quality of goods. One framework for isolating differences in the evaluation of quality for goods and services is the classification of the properties of goods [23].

**3 Categories of Properties of Consumer Goods:**

1 - Search properties: attributes, which a consumer can determine prior to purchasing a product (include attributes such as color, style, price, fit, feel, hardness and smell).
2 - Experience properties: attributes, which can only be discerned after purchase or during consumption (include characteristics such as taste, wearability and dependability).
3 - Credence properties: characteristics which the consumer may find impossible to evaluate even after purchase and consumption. Examples of offerings high in credence properties include appendectomies and brake relinings on automobiles. Few customers possess medical or mechanical skills sufficient to evaluate whether these services are necessary or are performed properly, even after they have been produced by the seller.

In general, offering high in search properties are easiest to evaluate, those high in experience properties more difficult to evaluate, and those high in credence properties hardest to evaluate. Zeithaml (1981) stated that most services contain few search properties and are high in experience and credence properties, making their quality more difficult to evaluate than the quality of goods [23].

### 3.2.3 Obstacles to Attaining Service Quality Improvements

Several issues proved to be obstacles in the search of attainment of service quality [14].

1) Lack of visibility: Service quality problems are not always visible to the provider.
2) Difficulties in assigning specific accountability: The customer's overall perception of service quality is influenced by experience at different stages of service delivery and it is hard to attribute quality problems to a particular stage of service delivery.
3) Time required to improve service quality: To resolve service quality problems requires major effort over a long period of time. This is because service quality is more dependent on people than systems and procedures. Attitudes and beliefs take longer to change than procedures.
4) Delivery uncertainties: Control of service delivery and quality is complicated by the individual and unpredictable nature of people. The attainment of service quality requires [12]:
    1. Customer focus: identifying and acting on the customer's needs and expectations.
    2. Empowerment of frontline staff: giving frontline staff the latitude to make important decisions regarding the customer's needs.
    3. Well – trained and motivated staff: it is difficult for frontline staff to perform their tasks effectively if they are not adequately trained, supported and well motivated.
    4. A clear "Service Quality" vision : since lack of clear vision will lead employees to have their own interpretation of service quality; this will inevitably increase the variability experienced by the customer within and with each stage of the service delivery. The common vision of quality is arguably more important in a service organization.
    5. Defining the service role: The common weakness in service organization management is the failure to properly define

and reinforce the service role for employees [5]. The result is service role ambiguity, where the concept of service is vague and non-credible. The potential cause of this service role ambiguity is the failure to establish service standards.

Service standards are customer expectations stated in a way that is meaningful to employees. If well conceived, the standards guide and energize employees. Service standards bring a customer focus to the reliability of an employee's day-to-day service delivery. A firm needs to set standards for service dimensions that are important to target markets and on which the company's performance is weak compared to competitors. Customers judge a company's service on the basis of a very few important service factors, and managers should establish a limited set of service standards for individual employees that contributes to the limited set of service goals for the organization. Using every opportunity to communicate and reinforce service standards, defining an employee's service roles clearly, consistently, and credibly are important to any organization's efforts to improve service. Service employees need to know what excellent service means and why they should care about delivering it.

### 3.2.4 Applicability of TQM to Services

The service sector lags behind the manufacturing sector in embracing philosophies such as "TQM" and "continuous improvement". There are major differences between the service and manufacturing sectors as far as "Quality" is concerned. Certain inherent characteristics of the service sector increase the complexity of "Quality control" and "improvement efforts" .

TQM is being used successfully to improve both quality and productivity. In a TQM program, the focus is on quality improvement. This also results in significant productivity enhancement [19]. Quality is generally used as a measure of the fitness for purpose, in the sense of meeting a customer's requirements, formal and informal, at optimum cost from the beginning [13].

ISO 9004 part 2 defined service as: "The inseparable combination of a person(s) doing or a machine(s) or equipment performing an activity and the result, as perceived by the customer". This has been revised by the following definition: "The results generated by activities at the interface between supplier and customer and by the supplier's internal activities, to meet customer needs" [28]. Juran defines services as: "Work performed for someone else". The final clause of 9004 - 2 discusses the need for a program for continuously improving the service quality and the effectiveness and efficiency of the complete service operation.

TQM applications are not restricted to manufacturing but are also found in other areas. TQM, although not widely used in service (Mefford 1991), is equally relevant to service firms as the basic precepts of TQM are equally relevant in services [6]. Quality programs can be easily adopted in manufacturing companies and can be measured since the product is tangible and can be controlled by prescribed clear specifications and standards. In contrast, quality measurement in service companies is subjective and imprecise with many conflicting views [2] .

Service quality has been defined in terms of customer satisfaction: The degree of alignment between customers' expectations and their perception of the service received.[8]. The measures of service quality are largely based on expectations and perceptions, although there are some less subjective measures [27].

Zeithaml, Parasuraman and Berry indicated that customers form their perception of quality from the following service elements, which they have developed in a SERVQUAL model: Tangibles, Reliability, Responsiveness, Assurance and Empathy. They found that the most important factor in all service sectors was reliability. The model used to explain quality in service relationships was able to provide insights about the gaps between client expectations of service quality and service provider standards.

In summary, TQM can be applied by any organization, public or private, that provides service or product to others [10].

## 3.3 Satisfaction vs. Service Quality

Rust and Oliver (1994) describe the dominant model of customer satisfaction in the services literature as follows:
"Customer satisfaction is a summary cognitive and affective reaction to a service incident (or sometimes to a long – term service relationship) [29]. Oliver (1983) argued that satisfaction judgements are influenced by: both positive and negative affectives (i.e., emotional responses and cognitive disconfirmation).

Customer satisfaction / dissatisfaction is likely to be determined by how well focal brand performance fulfills the innate needs, wants or desires of consumers, rather than how performance compares with pre-purchase predictions.

PZB (1988) defined service quality as a comparison to excellence in service encountered by the customer. Bitner and Hubbert's (1994) defined service quality as "The consumer's

overall impression of the relative inferiority, superiority of the organization and its services" [29].

The relationship between customer satisfaction and service quality is a complex and unresolved issue characterized by confusion about the distinction between the two constructs as well as the causal direction of their relationship [25]. Often, practitioners use the term service quality and customer satisfaction interchangeably. PZB (1988) stated that although service quality and satisfaction are closely related, at times these two constructs appear to diverge [29]. The followings are the issues that differentiate the two constructs:

## 1 - Global and Specific Focus

Service quality is a long – term attitude, whereas consumer satisfaction is a transitory judgment made on the basis of a specific service encounter. PZB (1988) regarded quality as an enduring, global attitude, whereas satisfaction is related to a specific transaction [9]. Oliver (1981) summarizes the transaction – specific nature of satisfaction and differentiates it from attitude, as follows [24]: "Attitude is the consumer's relatively enduring affective orientation for a product or process (i.e. customer service) while satisfaction is the emotional reaction following a disconfirmation experience which acts on the base attitude level and is consumption – specific. Attitude is therefore measured in terms more general to product and is less situational oriented" [24].

## 2 - Conceptual Domains

The distinction between the two constructs is reflected in conceptual domains. Service quality perception reflects a

consumer's evaluative perceptions of a service encounter at a specific point of time. In contrast, consumer satisfaction judgements are experiential in nature, involving both an end state and a process and reflecting both emotional and cognitive elements [12].

## 3 - Assessment

Customer satisfaction is distinct from service quality assessments (Fig. 1) in that assessment of customer satisfaction results from comparison between predicted service and perceived service, while assessments of service quality result from a comparison of desired service and perceived service [37]. Moreover, while predicted service plays a direct role in satisfaction assessment, it only indirectly affects service quality assessment by influencing (positive correlation with) adequate service (i.e. if customers predict good service, their level of adequate service is likely to be higher than if they predict poor service). Predicted service level may moderate how a customer interprets the service quality assessment gap. For example, if the level of service perceived by a customer falls at the mid-point of his tolerance zone, this customer's interpretation of this performance level (and hence assessment of service quality) varies depending on whether the predicted service level was above or below the adequate service level.

## 4 - Expectation Role

Previous literature has conceptualized the two constructs in nearly identical fashion as the difference between service expectations and perceptions of the actual service received. However, PZB (1988) have clarified the relationship between

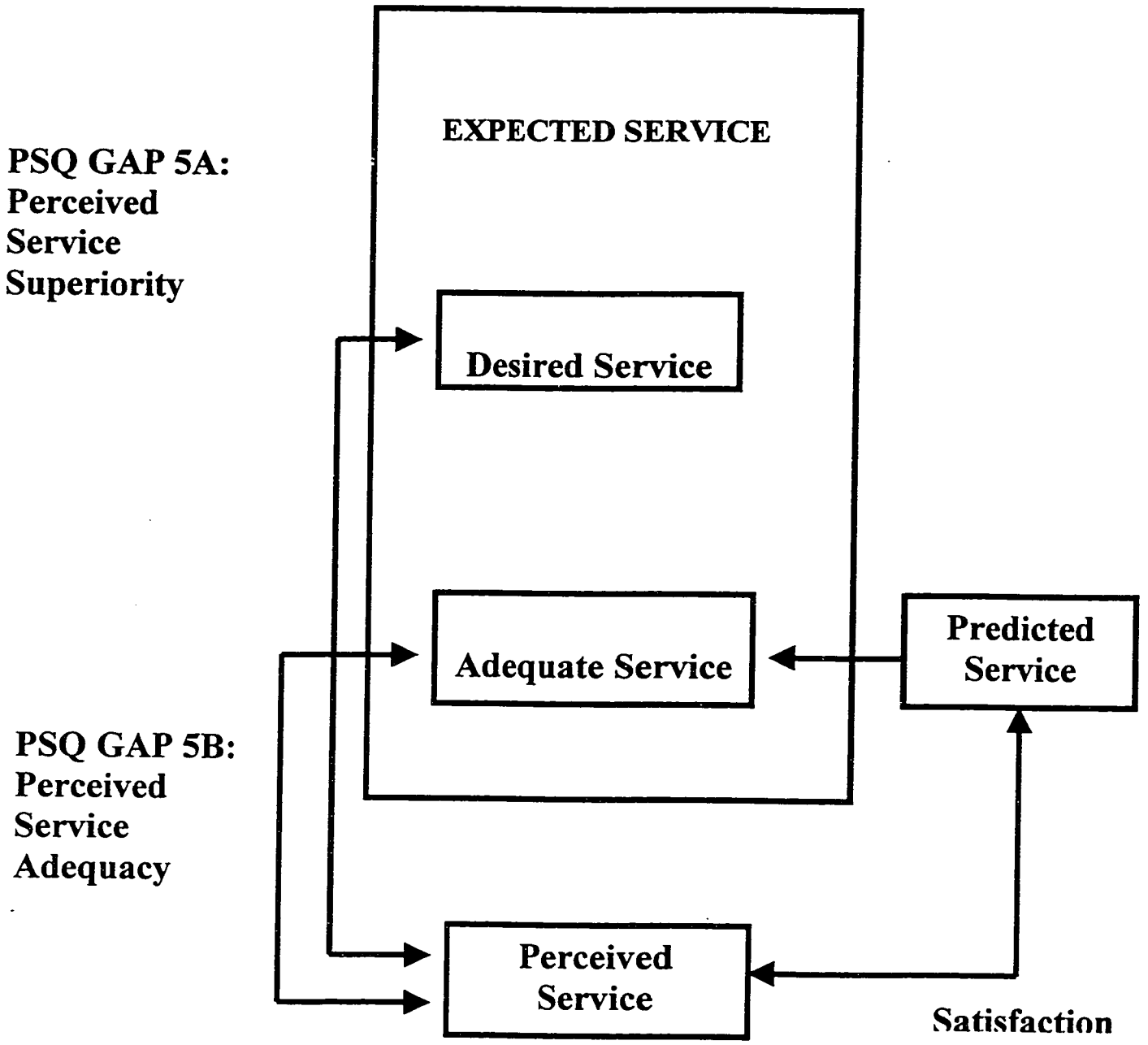


**FIGURE 1: Comparison Between Customer Evaluation of Perceived Quality and Satisfaction**

the two constructs by noting that expectations leading to levels of satisfaction are predictions, while service quality expectations are desires. PZB stated in measuring perceived service quality the level of comparison is what a consumer should expect, whereas in measure of satisfaction the appropriate comparison is what a consumer would expect [25].

Expectations for quality are based on ideals or perceptions of excellence, whereas a large number of non-quality issues can help in satisfaction judgements (i.e. needs, equity, perceptions of fairness) [29]. In customer satisfaction literature, Cadot, Woodruff and Jenkins (1987) provide evidence of the use of different experience norms leading to customer satisfaction. Possible norms include experience with the focal brand, performance of a typical brand, the last brand purchased, or the top selling brand [37]. Moreover, quality perception does not require experience with the service or provider whereas satisfaction judgement does [29].

## 5 - Level of Customer Participation

One factor that may potentially explain this relationship is the level of customer participation required during the service encounter. Quality perception does not require experience with the service or provider whereas satisfaction judgement does [29].

The achievement of customer satisfaction with the service encounter is often problematic because of customer ignorance regarding their role during the production and consumption of the service. The customer that is more involved with the service delivery and identified with the appropriate role during service should be more satisfied [18].

## 6 - Dimensionality

Service quality and customer satisfaction are a multifaceted construct, even though there is no clear consensus yet on the number of dimensions and their interrelationship [25]. Quality is believed to have fewer conceptual antecedents than does satisfaction [29].

The dimensions underlying quality judgements are rather specific, whereas satisfaction can result from any dimension (whether or not is quality related) [29]. Cornin and Taylor (1992) stated the satisfaction is super-ordinate to quality – that is, quality is one of many potential service dimensions factored into consumer satisfaction constructs.

## 7 - Direction of Causality

The direction of causality between service quality and customer satisfaction is an unresolved issue. There is a lack of consensus in the literature and among researchers about the causal link between the two constructs.

The results of empirical efforts to validate the specific nature of the relationship between service quality and consumer satisfaction have supported both possible relationships between the constructs [29]. PZB (1988) suggest that perceived quality is a function of (caused by) satisfaction [30]. Cronin and Taylor (1994) assessed service quality and consumer satisfaction relationship across four service industries. For each of the four service industries they investigated, they concluded that service quality leads customer satisfaction and

not vice versa [25]. Bitner suggests an opposite ordering of the service quality and satisfaction constructs (i.e. satisfaction → service quality) [29].

## 8 - Purchase Intentions

It is possible for a customer to receive relatively low levels of service quality and still be satisfied with the service provided (i.e. a customer visiting a discount store which provided him with low service quality may be more satisfied than a customer at a prestige store) [29]. PZB (1985), also found from 12 focus group interviews that respondents gave several illustrations of instances when they were satisfied with a specific service but did not feel the service firm was of high quality [24].

Cronin and Taylor (1994) concluded that consumer satisfaction appears to have an effect on purchase intentions, which is more frequently statistically significant, and the effect tends to achieve a greater level of statistical significance when both constructs have a significant effect on purchase intentions. Consumer satisfaction, thereby, appears to be a "richer" construct for use in predicting purchase intentions (i.e. consumers do not always purchase the highest quality product) [12]. Oliver (1981) states "satisfaction soon decays into one's overall attitude toward purchasing products" [24].

## 9 - Level of Aggregation:

The aggregation level plays a critical role in researching and understanding the meaning of these two concepts. Rust and Oliver (1994) viewed service quality as affecting service satisfaction at the encounter-specific level. Later, separate service encounter experiences can be aggregated into overall perceptions of quality [29]. In this way, the two constructs are

related in that incidents of satisfaction over time result in perceptions of service quality. Cornin and Taylor stated that satisfaction judgements are believed to degenerate into overall service quality judgements over time [12].

## 10 - An Integration

Teas proposed that "one way to integrate these two causal perspectives is to specify two perceived quality concepts – transaction specific quality and relationship quality – and to specify perceived transaction – specific quality as the transaction specific performance component of contemporary consumer satisfaction models. This implies that transaction specific satisfaction is a function of perceived transaction specific performance quality. Furthermore, transaction – specific satisfaction could be argued to be a predictor of perceived long – term relationship quality [25].

A key notion embedded in Teas's suggestion is that both service quality and customer satisfaction can be examined meaningfully from both transaction – specific and global perspectives. Building in this notion and incorporating two antecedents of customer satisfaction: product quality and price. PZB (1994) proposed: (1) a transaction – specific conceptualization of the constructs interrelationships and (2) a global framework reflecting an aggregation of a customer's evaluations of multiple transactions. Fig. (2) portrays the proposed transaction – specific conceptual model. This model posits a customer's overall satisfaction with a transaction to be a function of his assessment of service quality, product quality (tangible products or good quality), and price. This conceptualization is consistent with the "quality leads to satisfaction", but issues of the relative importance of the difference evaluations and how they are combined await further research.

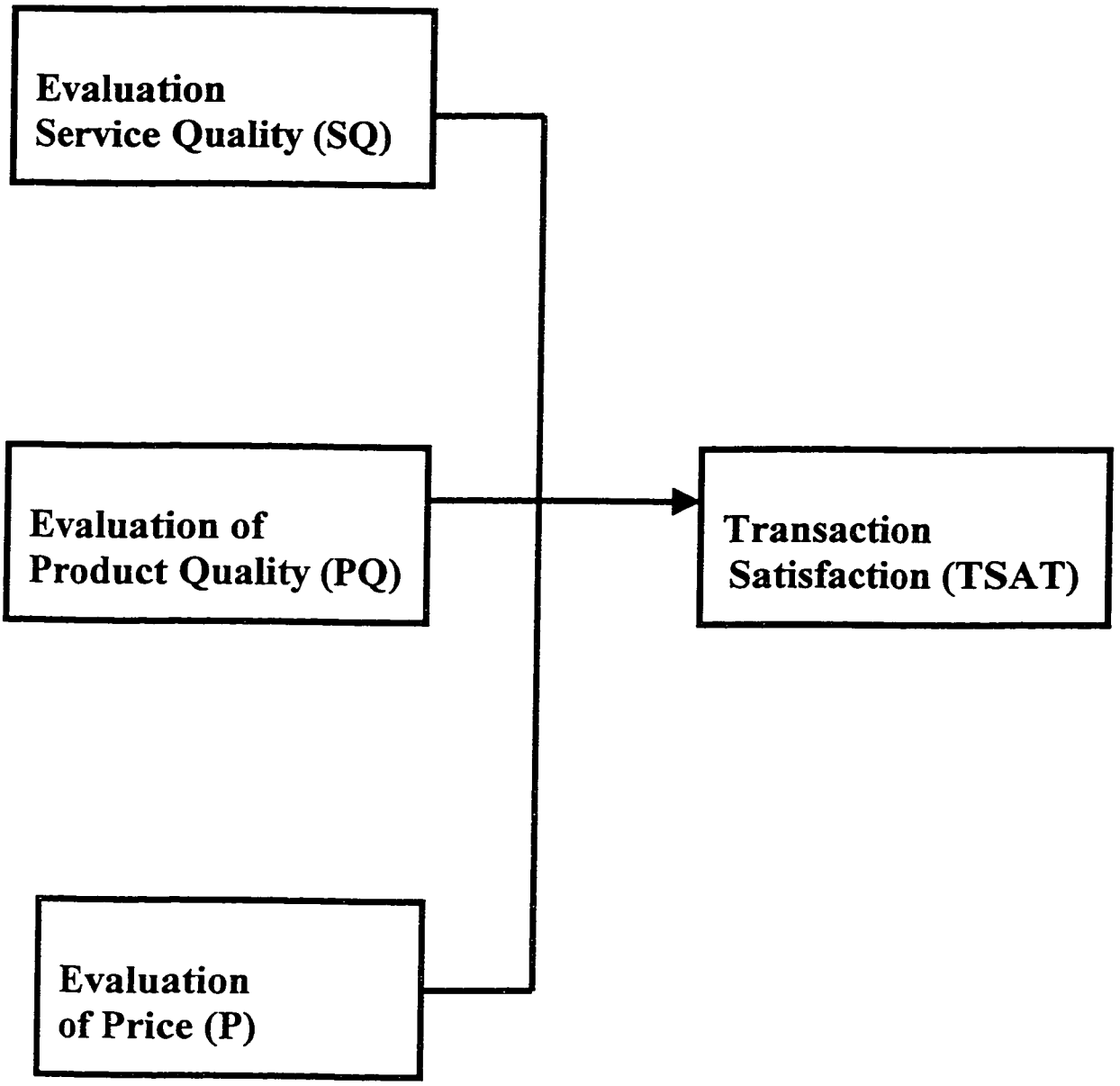


**FIGURE 2: Transaction - Specific Evaluation Model**

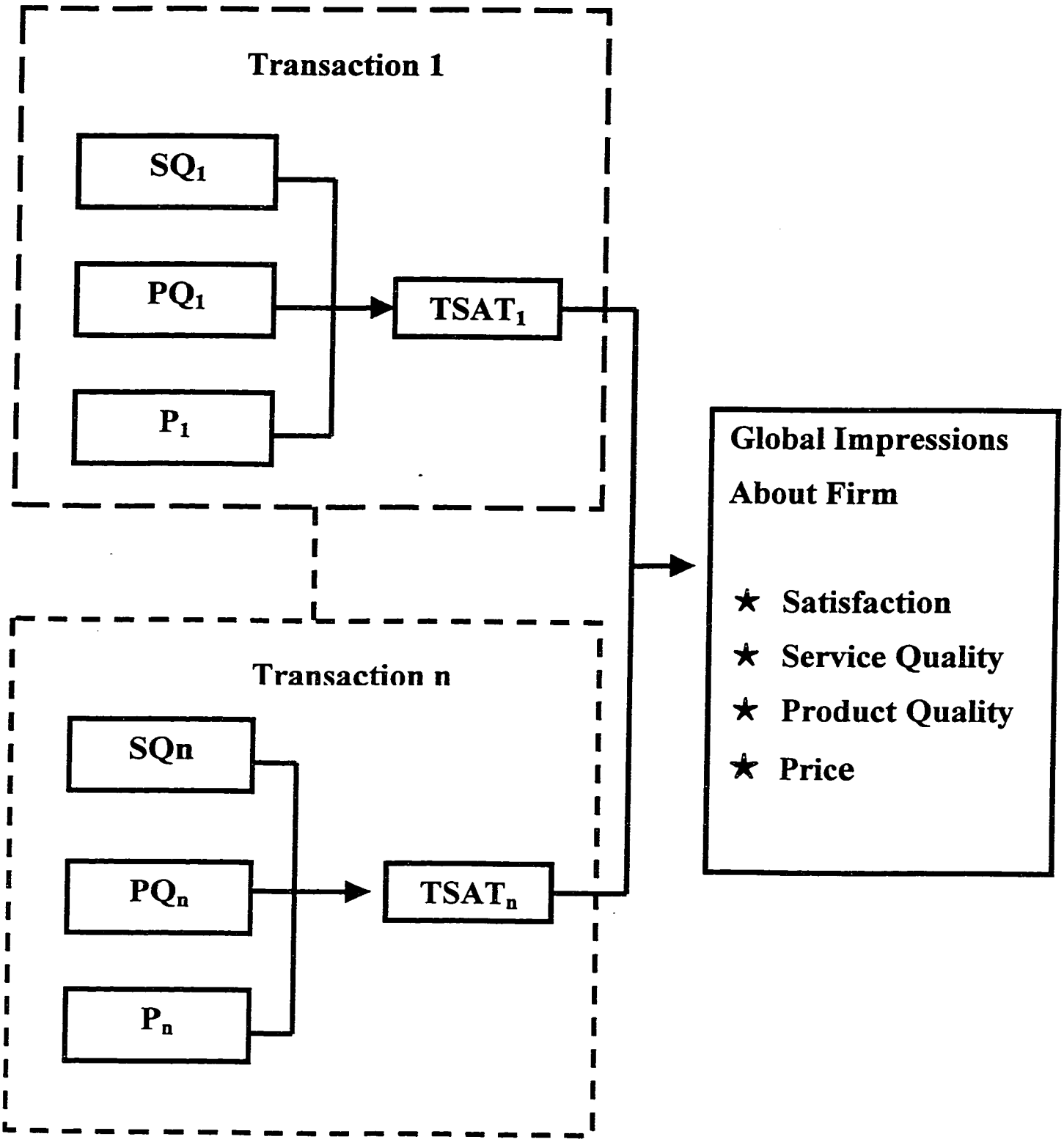


**FIGURE 3: Global Evaluation Model**

Fig. 3 shows proposed global framework. It depicts a customer's global impressions about a firm stemming from an aggregation of transaction experiences. PZB (1994) posit global impressions to be multifaceted, consisting of a customer's overall satisfaction with the firm as well as their overall perceptions of the firm's service quality, product quality and price. This framework is consistent with the "satisfaction (with specific transactions) leads to overall quality perceptions".

The SERVQUAL instrument, in its present form, is intended to ascertain a customer's global perceptions of a firm's service quality. To sum up, service quality and satisfaction should be conceptualized as distinct constructs. They are separate (unique) constructs that share a close relationship [29]. On the basis of viewing customer satisfaction as specific assessment whereas service quality is viewed as a global assessment, service quality researchers have posited that an accumulation of transaction – specific assessments leads to a global assessment (i.e., the direction is from customer satisfaction to service quality). Others have modeled service quality as an antecedent of customer satisfaction.

## 3.4 Dimensions of Service Quality

### 3.4.1 Number of Dimensions / Determinants

Quality is not a singular but a multi-dimensional phenomenon. The attempts of many researchers to identify the service quality determinants are based on the separation of the quality associated with the outcome of the service and with the process of service delivery. Moreover, regardless of the type of service , customers used basically similar criteria in evaluating service quality [23].

Gronroos (1983) argued that service quality comprises of three dimensions [14]:

1. The technical quality of outcome: this is the actual outcome of the service encounter, i.e. the condition of the service.

2. The functional quality of the service encounter: it is concerned with the interaction between the provider and recipient of a service and is often perceived in a subjective manner; i.e. the courtesy shown to the customer.

3. The corporate image: this is concerned with consumers' perception of the service organization. The image depends on: technical & functional quality, price, external communication physical location, appearance of the site and the competence and behavior of service firms' employees.

Lehtinen (1982) argued that service quality has 3 dimensions [14] :

1. Physical quality: which include the Physical aspects of the service items such as the condition of building / equipment.

2. Corporate quality: which refers to the company image and profile.

3. Interactive quality: which results from the interaction between service providers and the customer as well as the interaction between customers.

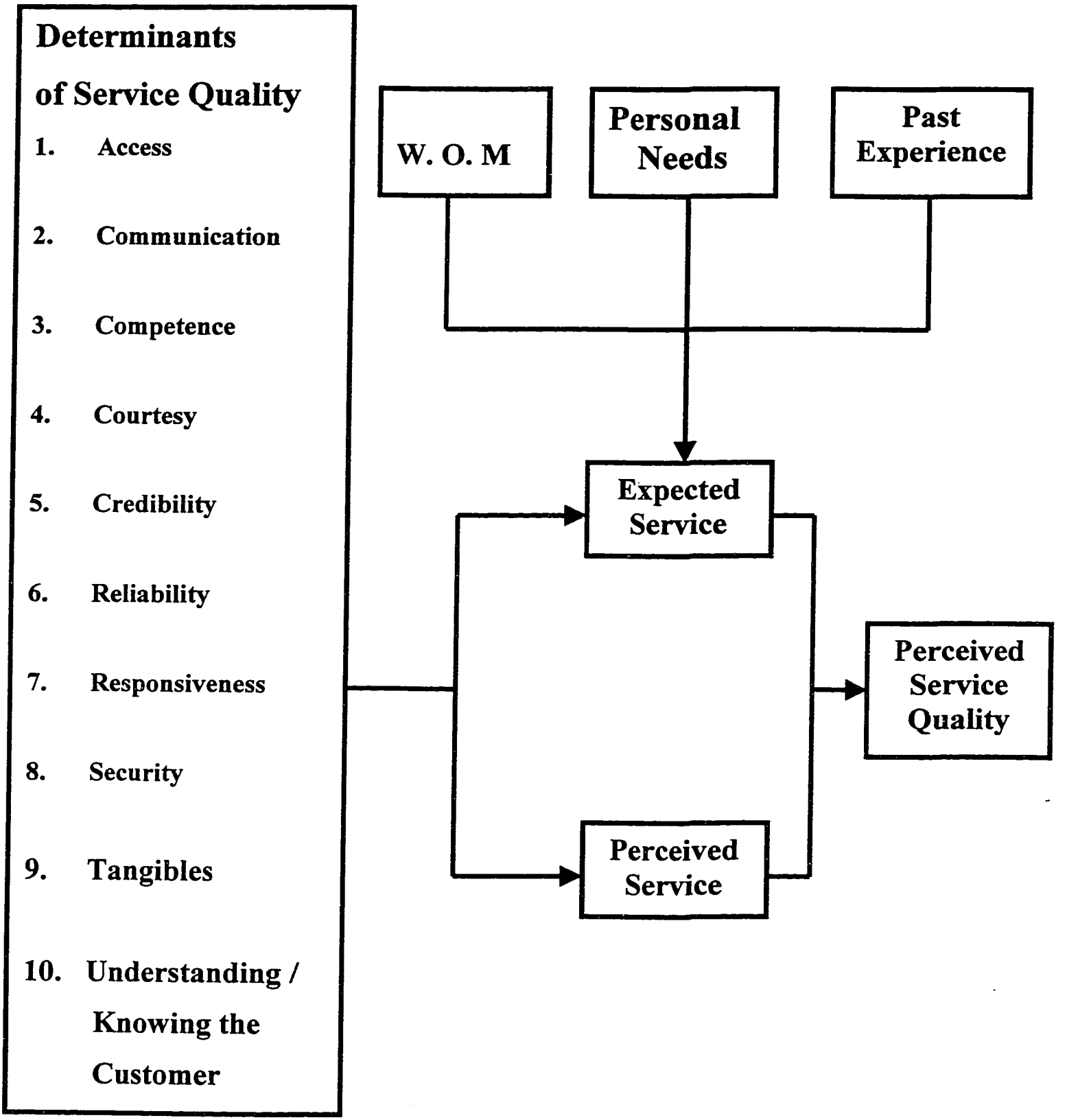


**FIGURE 4: Determinants of Perceived Service Quality**

A modified version of the service quality determinants proposed by PZB (1985) was developed which contained 10 determinants of service quality (Fig. 4), namely: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles and understanding / knowing the customer [24]. These 10 service quality determinants were collapsed into five dimensions because of the overlap across the 10 criteria; as follows:

1. Tangibles.
2. Reliability.
3. Responsiveness.
4. Assurance (competence, courtesy, credibility, security).
5. Empathy (access, communication, understanding of the customer).

The last 2 dimensions (assurance and empathy) contain items representing the seven original dimensions.

The service determinants and their definitions are described here:

**1. Tangibles** : These include the appearance of physical facilities, equipment, personnel, communications, use of appropriate materials, etc. Tangibles are more important in high contact services, i.e. conditions of the buildings.

**2. Reliability** : It is the ability to provide the promised service dependably and accurately. For example, in the case of electrical utilities, this means fewer or no power outages to customers.

**3. Responsiveness**: It is the ability to deal effectively and promptly with customer requirements and complaints. For example, in the case of electrical utilities, prompt repair of power outages and providing temporary supply during outages.

**4. Assurance** : Knowledge, experience, courtesy and readiness to maintain client confidence and trust.

*4-1. Competence* : Staff should possess the necessary skill, knowledge, and information to perform the service effectively.

*4-2. Courtesy* : The politeness, respect, consideration and friendliness shown to the customer by the contact personnel.

*4-3. Credibility* : The extent to which the service is believed and trusted. It involves the service provider's name and reputation and personal traits of front line staff.

*4-4. Security* : The freedom from danger, risk and doubt. It involves physical safety, financial security and confidentiality.

**5. Empathy** : It involves caring and providing individualized attention to customers.

*5-1. Access* : The ease of approachability and contact; this includes convenient opening hours,

location and getting through on the telephone.

*5-2.* ***Communication***: Clear and regular communication with clients to keep them informed about the service. For example, give detailed and accurate information whenever a delay in service occurs.

*5-3.* ***Understanding / knowing the customer*** *:*
Involves understanding the customer's needs and requirements. It emphasizes close client focus and customization.

### 3.4.2 Properties of determinants

1. Only two of the ten determinants – tangibles and credibility – can be known in advance of purchase, thereby making the number of search properties few [23].
2. Most of the dimensions of service quality were experience properties: access, courtesy, reliability, responsiveness, understanding / knowing the customer and communication. Each of these determinates can only be known as the customer is purchasing or consuming the service. While customers may possess some information based on their experience or on other customers' evaluations, they are likely to reevaluate these determinants each time a purchase is made because of the heterogeneity of services.
3. Two of the determinants probably fall into the category of credence properties, that is, those which the consumer cannot evaluate even after purchase and consumption. These include competence (the possession of the required

skills and knowledge to perform the service) and security (freedom from danger, risk or doubt). Consumers are probably never certain of these attributes, even after consumption of the service.

### 3.4.3 Importance of Determinants

The importance of utility value of each determinant of quality is dependent on the nature of the service. For example, in low contact, low variety standard services, customization is not a significant determinant of the service quality. While in high number of contacts, access is very important [14].

PZB (1985) revealed that the focus group participants differed on the relative importance of these criteria to them and their expectations along various quality dimensions. In this regard, it will be useful to build into the service quality measurement instrument certain statements for ascertaining whether, and in what ways, consumer expectations differ [23].

To sum up, in the service literature, the attitude and behavior of service personnel are usually associated with what is called "process" or "functional" quality (the "How" of service delivery) as opposed to the "outcome" or "technical" quality (the "What" of service delivery) [6]. A comparison of determinants put by researchers for all types of services shows the commonality of the determinants [14].

## 3.5 Service Delivery

Services are performances, and most of the time it is people who render these performances [5]. For this reason, many service firm managers recognize the importance of service employees in communicating with and satisfying their customers. PZB (1985) found from their interviews "A set of key discrepancies or gaps exist regarding executive perceptions of service quality and the tasks associated with service delivery to customers. These gaps can be major hurdles in attempting to deliver a service which consumers would perceive as being of high quality.

Three major issues will be discussed here that need to be managed and controlled if service delivery is to be effective:

### 3.5.1 Employee Selection

One major cause of poor service quality is placing the wrong people. Managers often do not have a well defined profile of people to hire. They do not base hiring standards on service standards, which contributes to a mismatch between the type of people the company actually hires and the type of people the company needs to hire to deliver excellent service [5].

The reason why managers allow the wrong people to carry the company flag in front of customers is that most managers do not think like marketers when it comes to human resources issues. They view marketing as something you do to win over customers but not something you do to win over employees [5].

It is important to use service standards as a basis for hiring decisions. This requires having written service standards for the various positions. Managers have to select their people well, provide them with a strong foundation culture in which to work, offer them strategic direction, and give them the company specific training and education they need to perform their roles [5].

### 3.5.2 Control over Personnel

Managers believe it is essential to standardize service among different employees. Managers do not trust their employee's judgement and make rules to replace it with their own. Some managers think if they cannot get good people, they at least need to make sure they control their work tightly. This belief is nonsense and people who are unqualified for a position should not be in that position. People who are qualified will perform better and stay with the company longer if given room to maneuver, achieve and grow. Managers should learn the dangers of over management. Service personnel need to be marketers rather than functionaries [6].

### 3.5.3 Employee Empowerment

One key component in the delivery of customer service is personnel attitude [33]. Influence of personnel attitudes toward customer service should derive from at least two additional sources: perceived level of company support of employees and financial incentives. Teas (1981) pointed out the importance of people's attitude toward their job satisfaction [33]. If employees are treated with indifference, they may reason that the company expects them to treat customer in the same way. Many personnel

work for the minimum wage. Their perceptions how they are treated will influence what they believe the company will do for the customer. Employees are not likely to treat customers any better than they are treated by the company for which they work.

To summarize, in labor intensive services, quality occurs during service delivery, usually in an interaction between the client and contact person from the service firm. The service may also have less managerial control over quality where consumer participation is intense (i.e. visiting a doctor) because the client affects the process [23]. Here the consumer's input (description of symptoms) becomes critical to the quality of service performance. Moreover, if employees are unsure of how to deliver excellent service, if they think they know how but are wrong, or if they believe management does not really care about service, they are unlikely to deliver excellent service.

## 3.6 Customer Socialization / Participation

### 3.6.1 Definition & Importance

One unique aspect is that customers are often part of the production and delivery process. For many services, the customer is required to contribute information or effort before the service transaction can be consummated. The quality of the service delivered is influenced by that information or effort [18]. For example, when applying for a loan, customers are required to provide detailed records of their credit history.

Although customers do not think of themselves as members of service organizations, for the purposes of service management, service organizations should actually view such customers as

organizational members or "partial employees". Partial employees are temporary participants in the service delivery process of the service organization. When service customers are participants in the ongoing service delivery process, the organization must develop mechanisms for managing these customers in order to ensure that they perform duties/actions required to accomplish service production and delivery. However, the management of partial employees is difficult because managers generally are not able to reward partial employees as they do traditional employees.

Consumer socialization is generally viewed as a process pertaining to development of consumer skills, knowledge and attitudes relevant to the marketplace in general [18]. The process of customer organizational socialization is one means of managing the behavior of these individuals, i.e. banks train customers to utilize automatic tellers. This focus draws attention to controllable elements at the point of interaction between the firm and its customers that may influence customer evaluations, and ultimately affect perceptions of service quality.

The organizational socialization of customers is clearly more important and can be used as a tool to achieve more effective service delivery in service organization that recognize that high levels of customer technical and functional quality are necessary to achieve optimal levels of efficiency, productivity and service quality. Poor customer technical or functional quality may have three consequences [18]:

1) A negative impact on the overall efficiency, productivity and quality of the service delivered.
2) The prevention of optimal provision of employee technical and functional quality.
3) Negative emotional responses from employees due to rude or incompetent customer behavior.

The process of customer organizational socialization provides managers with a means of conveying to customers their desires concerning the service encounter. The organizational values conveyed through organizational socialization experiences are very important. Also, the interpretation of organizational values by service customers has an impact on the perceived importance of various components of service quality and customer satisfaction. For example, when bank loan customers are socialized in a way that stresses the importance of having accurate financial records prepared prior to the loan application (customer technical quality), the result should be a service encounter in which the resource contribution of the customer to service delivery is positive [18]. Moreover, if management socializes a customer into believing helpfulness, friendliness, and caring are key organization values, but employees understand that only speed and efficiency matter, such inconsistencies will eventually impact perceptions of service quality.

### 3.6.2 Service Encounters

Shostacks (1985) defined service encounters as " a period of time during which a consumer directly interacts with a service". This definition encompasses all aspects of the services firm with which the consumer may interact – including its personnel, its physical facilities, and other tangible elements during a given period of time [6]. PZB (1988) stated that the management of individual encounter is nested within broader managerial issues of organizational structure, philosophy, and culture that also can influence service delivery and ultimately customer perception of service quality. Customer satisfaction depends directly and

immediately on management monitoring of individual service encounters (PZB 1985).

Mary Bitner (1990) presented a model of service encounter evaluation. A portion of this model is tested experimentally to assess the effects of physical surroundings (atmospherics) and employee responses (explanations and offers to compensate) on attributions and satisfaction in a service context [6].

Figure 5 represents a general model of antecedents and the outcome of consumer satisfaction or service encounters.

The first part of the model (expectations creations) suggests that a consumer's perceived attitude will influence expectations about the outcome of a particular service encounter (Oliver 1980, Swan 1983).

The second stage of the process (evaluation) suggests that the customer's immediate reaction after consumption depends on a comparison of prior expectations and perceived performance, resulting in confirmation of expectations or in +ve/-ve disconfirmation when expectations and performance do not match.

The next part of the model (causes & effect) implies that causal attributions for disconfirmation will mediate customer satisfaction. That is, before a customer determines his level of dis/satisfaction, he will diagnose that cause of disconfirmation and depending on the perceived nature of the cause, the level of dis/satisfaction and subsequent behaviors may be modified. This positioning of the attribution construct (after disconfirmation and before dissatisfaction) is consistent with Folkes, Koletsky, and Graham 1987, Oliver (1988).

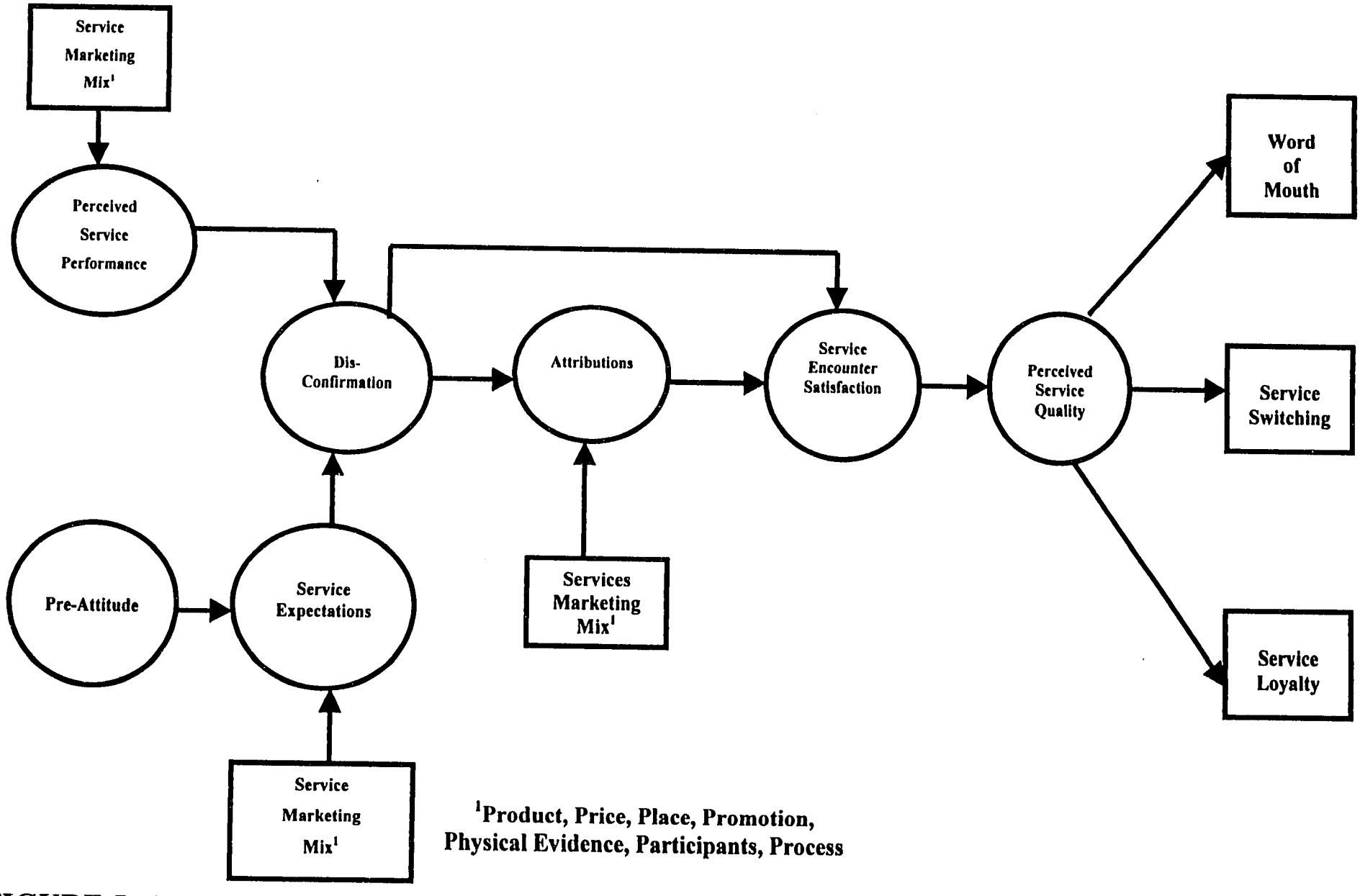


**FIGURE 5: A Model of Service Encounter Evaluation**

The final part of the model shows service encounter satisfaction as an input into the more general construct, perceived service quality (or attitude), which in turn leads to later reactions toward the service firm (Oliver 1980).

The model suggests that a high level of perceived service quality will lead to service loyalty. Obviously, however, other variables in addition to perceived quality will affect service loyalty. Such variables as time or money constraints, lack of alternatives, switching costs and habit all may affect service loyalty. The model suggests the level of satisfaction within the service encounter results from a very rational, cognitive sequence, although other variables may be influential. Individual personality traits and temporary mood states caused by unrelated events may well temper the level of satisfaction in a particular service encounter.

Finally, the model implies a very close relationship between service encounter satisfaction and perception service quality.

### 3.6.3 Role of the Customer

Participating customers that are more committed will be more involved with the service organization and the service delivery process, and as a result, more effective partial employees for the organization. At one extreme there are roles that require minimal degrees of effort and instinctive participation. Service encounters which the customer is very familiar with require low levels of involvement and have been referred to as being performed in a state of mindlessness (Soloman et al. 1985). At the other extreme there are roles that are enacted with high mental and physical

intensity, requiring engrossment (Goffman 1961) on the part of the participating customer [18]. An unfamiliar service encounter or an encounter requiring physical activity will require greater service involvement from the customer.

The role densification of the service customer is related to the willingness of the customer to adapt his or her behavior to the role appropriate for facilitating service production and delivery. In service encounters in which the customer is required to be an active participant in the delivery process the customer is playing two unique roles. The traditional role of the service customer, and the role of the partial employee. How strongly a customer identifies with the particular roles will impact service delivery. A customer that identifies more strongly with the traditional role of the customer will be less willing to modify his behavior [18].

The service organization can use the process of organizational socialization to orient customers toward identifying with the appropriate role in the appropriate circumstances. Customer contribution is through information and effort.

In the case of self-service, participating customers should be rewarded with lower prices by the organization for being willing to contribute resources to the service delivery process. Customers must also be sufficiently motivated to play the role of the partial employee. Service organizations can motivate their customers in this role by reinforcing participating behaviors through the provision of benefits to the customer that are directly traceable to their participation.

### 3.6.4 Classification

The outcome of organizational socialization can be classified as either behavior or affective [22].

1- **Behavioral Outcome**

The behavioral outcome of customer socialization relevant to the service encounter includes the technical and functional aspects of service quality. The process of organizational socialization leads to the development of an understanding of organizational norms (Feldman 1981,Louis 1980, Schein 1969), which enables a service customer to better understand the normative expectations associated with their roles [22].

Customers that have been successfully socialized by an organization should have more accurate expectations about what resources should be provided during the service encounter – technical quality, as well as how those resources should be provided – functional quality. This suggests that the level of organizational socialization achieved by customers has an impact on their behavior with respect to the customer technical and functional compounding of service quality. The service customer that has achieved a higher level of organizational socialization should have more accurate expectations for the service encounter and the expectations for service should be more closely aligned with perceptions of actual service-delivery behavior.

These socialization techniques (provide customer with procedures / manual to give them hints on how to use the available service) facilitate the service encounter and hence the customer perception of the quality service they receive.

2- **Affective outcome**

Affective organizational socialization outcome pertinent to service preparing a customer as a partial employee include organizational climate for service motivation, organizational commitment, and satisfaction.

## A. Organizational climate for service

This can be defined as a set of descriptive characteristics concerning service delivery and service quality that differentiate a service organization from others and influence the service – related expectations and behavior of the individuals in the organization.

During the process of organizational socialization, customers engage in sense-making activities in order to understand organizational norms, policies, and procedures. This process of sense making leads to customer perceptions of the organizational climate for service (Schneider & Reichers 1983). As a result, customer perceptions of the climate for service in an organization, which are conveyed through organizational socialization, influence the customer's service expectations for what should be done during the encounter, and the customer's service-related behavior.

Many services organizations have implemented programs designed to enhance their customer's view of their organizational climate for service. Advertising programs not only convey a message about the organizational climate for service but also may impact customer perceptions of service quality prior to the actual service encounter.

## B. Motivational effort and direction

It has been suggested that there are two distinct components of motivation: motivational effort and motivational direction. Motivational effort focuses on the amount of effort an individual exerts during the performance of a task (Weitz, Sujan 1986). Motivations direction considers "The appropriateness of the particular activities into which an individual is directed and maintained" (Katerberg and Blan 1983).

Organizational socialization increases motivational effort as individuals learn of the tasks associated with their organizational roles (Feldman 1981). As service customers come to understand the organizational tasks and outcomes associated with the role of the partial employee, they are willing to put forth more effort on behalf of service organization. The process of organizational socialization also leads to more accurate role perceptions (Dubinsky et al 1986) and hence greater motivational direction (Porter & Lawler 1968).

As customers are more successfully socialized by the service organization they develop more accurate role perceptions and greater motivational direction.

Research investigating the relationship between motivational effort and direction and human performance suggests that service customers with strong levels of motivational effort and direction will contribute higher levels of customer technical and functional quality to the service encounter (Terborg 1976, 1977).

A high degree of motivational effort on the part of a service customer during the encounter may have a significantly greater impact upon technical aspects of quality as opposed to functional aspects of quality. Similarly, motivational direction may be more closely associated with the functional components of service quality than the technical components.

## C. Organizational commitment

"Organizational commitment is the relative strength of an individual's identification with and involvement in a particular organization" [18]. Organizational socialization leads to the development of a better understanding of organizational goals and values and identification with those goals and values.

As customers come to accept organizational goals and values through the socialization process, they become more committed to the organization through stronger identification and involvement with the organization. The service customers committed to a service organization will tend to contribute higher levels of customer technical and functional quality to the service encounter.

### D. Satisfaction

In situations where a lack of customer – role knowledge is problematic, low levels of customer organizational socialization may have been achieved. Organizational socialization provides a means by which the service customer learns what his role will be in the service encounter and develops more accurate role expectations. Therefore, it should result in an increased likelihood of congruence between the customers role related predictive expectations and the actual roles performed during the service encounter. The congruence between expected and actual roles lead to greater customer satisfaction with the service provided (Liechty and Churchill 1979, PZB 1988).

One potential result of a customer experiencing higher levels of customer satisfaction with the service provided by an organization will be stronger identification and involvement with the organization (i.e. organizational commitment).

## 3.6.5 Consumer Attributions

The model of service encounter evaluation incorporates consumer attributions within the satisfaction paradigm. Attributions are what people perceive to be the causes behind their own behavior, the behavior of others, or the events they observe. Weiner (1985) concluded that people do engage in "spontaneous causal thinking" particularly in cases of unexpected and negative

events. Weiner concluded that most causes can be classified on three dimensions:

1) Locus (who is responsible?)
2) Control (Did the responsible party have control over the cause?)
3) Stability (Is the cause likely to recur?)

Attribution theory (Folkes 1988, Harvey & Weary 1984, Weiner 1985) and the results of empirical studies suggested the following hypotheses [6]:

1) In cases of service failure, when customers perceive that the firm has control over the cause, they are more dissatisfied than when they believe the firm has no control.
2) When customers perceive the cause to be stable (i.e., likely to recur), they are more dissatisfied than when they believe the failure is a rare event.
3) When an employee offers an external explanation for service failure the customer attributes less control to the firm than when an internal explanation is given. When an employee offers an external explanation for service failure, the customer attributes less control to the firm than when no explanation is given.

Previous research suggests that when an employee provides an external explanation for service failure, by placing the blame on some thing or someone other than himself or the firm, the explanation is likely to lead the customer to believe the firm had less control over the failure than when an internal explanation (one in which, the employee implicates himself or the firm) is provided (Folkes 1984, Folkes, Kolelsky and Graham 1987). When no explanation is provided, the fundamental attribution

error would predict that customers will attribute greater control to the firm.

4) The customers attributions about the firm's control, the stability or likely recurrence of the cause are influenced by whether or not an offer is made to compensate for service failure.

When an employee offers to compensate the customer for service failure, the offer may influence attributions. It is plausible that an offer may lead the customer to attribute greater control to the firm if the customer sees the offer as an admission of guilt and as a confirmation of the failure that reinforces negative beliefs about the firm. Conversely, an offer may lead the customer to think, "they must care about me and my business or they would not offer to do this. Because they care, "they are not likely to do it again", or "they could not afford to do this often so it must be an infrequent occurrence and probably outside their control". The value of the offer to compensate as well as whether the customer prefers a replacement product to a refund (Folkes 1984), also may affect how the offer is perceived.

5) Less control is attributed to the firm and the customer's attributions of stability are less (i.e. the cause is less likely to recur) when the service failure occurs in organized service environment than when the same event occurs in a disorganized environment.

If customer experiences service failure in an organized, professional environment, the customer may blame the firm less. When failure occurs in such an environment, the

customer is likely to attribute the cause to something unintentional and relatively temporary. In contrast, in a disorganized environment the physical cues may suggest incompetence, inefficiency and poor service. In such an environment, a customer may attribute greater responsibility to the firm and be more likely to expect the same type of problem to occur in future.

These findings confirm the importance of understanding customers' attributions and how they are formed. Such understanding can guide management policies and actions in response to service failures. Furthermore, the results show that providing customers with logical explanations for service failures and compensating them in some way can mitigate dissatisfaction.

### 3.6.6 Applicability

Customer organizational is most applicable for services that are highly customized and directed toward people or intangible things. This is because the customer must understand the nature of the resources that are to be provided in that service encounter. Customer organizational socialization is least applicable to services with low levels of customization directed toward tangible things since the resources provided by the service customer in these types of services are less crucial to service provision.

#### A. Organization Climate for Service

The type of service being considered may also impact the extent to which organizational climate for service influences customer service expectations and relevant behavior. Customers of organizations offering services

that are highly customized and directed toward people or intangible things may be influenced more strongly by the organizational climate.

The climate for service in these organizations may become more important due to:

1)The resources exchanged in these types of service encounters and;
2)The likelihood of a limited set of tangible cues associated with the core service available to customers for evaluating these services.

## B. Motivational Effort & Direction

Based on the relative importance of components of service quality implied by a service classification scheme, and the differential effects of motivational effort and direction on service quality, the importance of components of motivation in different types of services may vary as well.

For services with high levels of customization directed toward people or intangible things, motivational effort and direction are important. For services with low levels of customization directed toward tangible things, the motivational effort and direction of service customers are relatively unimportant.

Motivational effort is relatively more important than motivational direction for services with high levels of customization directed toward tangible things. Motivational direction is relatively more important than motivation effort for services with low levels of

customization directed toward people or intangible things [18].

### C. Service Quality and Customer Satisfaction

The strength of relationship between components of service quality and customer satisfaction with the service provided will also vary depending upon the type of service being considered. For services that have a high level of customization and are directed toward people or intangible things, customer satisfaction will be related to all four components of service quality.

Customer satisfaction will have a relatively stronger relationship with employee and customer technical quality for services that have a high level of customization and are directed toward tangible things. For services that have a low level of customization and are directed toward people or intangible things, customer satisfaction will have a relatively stronger relationship with employee technical and functional quality, and customer functional quality. For services that have a low level of customization and are directed toward tangible things, customer satisfaction will have a relatively stronger relationship with employee technical quality [18].

## 3.7 Customers' Expectations

### 3.7.1 Definitions and its nature

Winer (1985) defined expectation thus: "An expectation of a product attribute is a consumer's subjective evaluation of the value

of the attribute at a particular point in time" [16]. Olson and Dover (1979) stated that customer expectations are pretrial beliefs about a product that serve as standard or reference points against which product performance is judged.

In literature on customer satisfaction and service quality, consensus exists that expectations serve as standards with which subsequent experience are compared, resulting in evaluations of satisfaction or quality [36]. "Expectations" as used in service quality literature differs from the way it is used in the consumer satisfaction literature. In the satisfaction literature, expectations are viewed as predictions made by consumers about what is likely to happen during an impending transaction or exchange. "It is generally agreed that expectations are consumer-defined probabilities of the occurrence of positive and negative events if the consumer engages in some behavior" Oliver (1981). In contrast, in the service quality literature, expectations are viewed as desires or wants of consumers, i.e. what they feel a service provider should offer rather than would offer [24].

Two things about expectations: Are expectations predictions or are they ideal standards? [37].

1- Expectations as – prediction standards:

In CS/D literature, expectations are viewed as predictions made by customers about what is likely to happen during an impending transaction or exchange. According to Oliver (1981b), "it is generally agreed the expectations are consumer – defined probabilities of the occurrence of positive and negative events if the consumer engages in some behavior".

Miller (1977) called this standard the expected standard, defined it as objective calculation of probability of performance

and contrasted it with three other types of expectations. Swan and Trawick (1980) termed this "standard predictive expectations" defined as estimates of anticipated performance level.

2- Expectations as – ideal standard

A normative standard of expectations has been proposed. Miller (1977) proposed ideal expectations, defined as the "Wished for" level of performance. Swan and Trawick (1980) termed desired expectation as "the level at which the customer wanted the product to perform." Prakash (1984) formulated normative expectations.

The expectation construct has been viewed as planning a key role in customer evaluation of service quality (Gronroos 1982 Lehtinen and Lehtinen 1982, PZB 1985, 1988). Its meaning in the service quality literature is similar to the ideal standard in CS/D literature. Expectations are viewed as desires or wants of consumers i.e. what they feel a service provider should offer rather than would offer (PZB, 1988).

3- Realistic expectations

Woodruff, Cadotle and Jenkins (1985) augmented earlier conceptualizations by proposing that customers rely on standards that reflect what the focal brand should provide to meet needs and wants, but that these expectations are constrained by the performance customers believe is possible based on experience with real brands. They called these expectations experience based norms because they captured both the ideal and realistic aspects of expectations.

Miller (1977) proposed minimum tolerable expectations, defined as the lower level of performance acceptable to the

consumer. Miller (1977) also proposed deserved expectations, reflecting the consumer's subjective evaluation of their own product investment. Prakash (1984) proposed a standard called comparative expectations, consumer expectations from other similar brands. Prakash (1984) documented three types of expectations: predictive, normative and comparative.

Tse and Wilton (1988) found support for the influence of both predicted and ideal expectations. They concluded that: the results suggest that more than one comparison standard may be involved in CS/D formation because both expectation (prediction) and ideal relate individually to satisfaction. Expectations and ideal appear to represent different constructs contributing separately to the CS/D formation process.

Teas (1993) said, "Though ZBP (1991) have indicated that service expectations (Fig. 6) are similar to these ideal standards, they have not clearly articulated the specific interpretation of the ideal standard they adopt." PZB (1990) developed a revised expectations measure (E*) representing the extent to which customers believe a particular attribute is "essential" for an excellent service company.

ZBP (1993) developed the generic model of customer expectations (Fig. 6) which is divided into four main sections: (1) The expected service component. (2) Antecedents of desired service (3) Antecedents of adequate service and (4) Antecedents of both predicted and desired service.

Expectations are defined as "desires or wants of consumers, i.e. what they feel a service provider should offer rather than would offer" [30]. PZB (1988) emphasize that the term "expectations" is used differently in the service quality

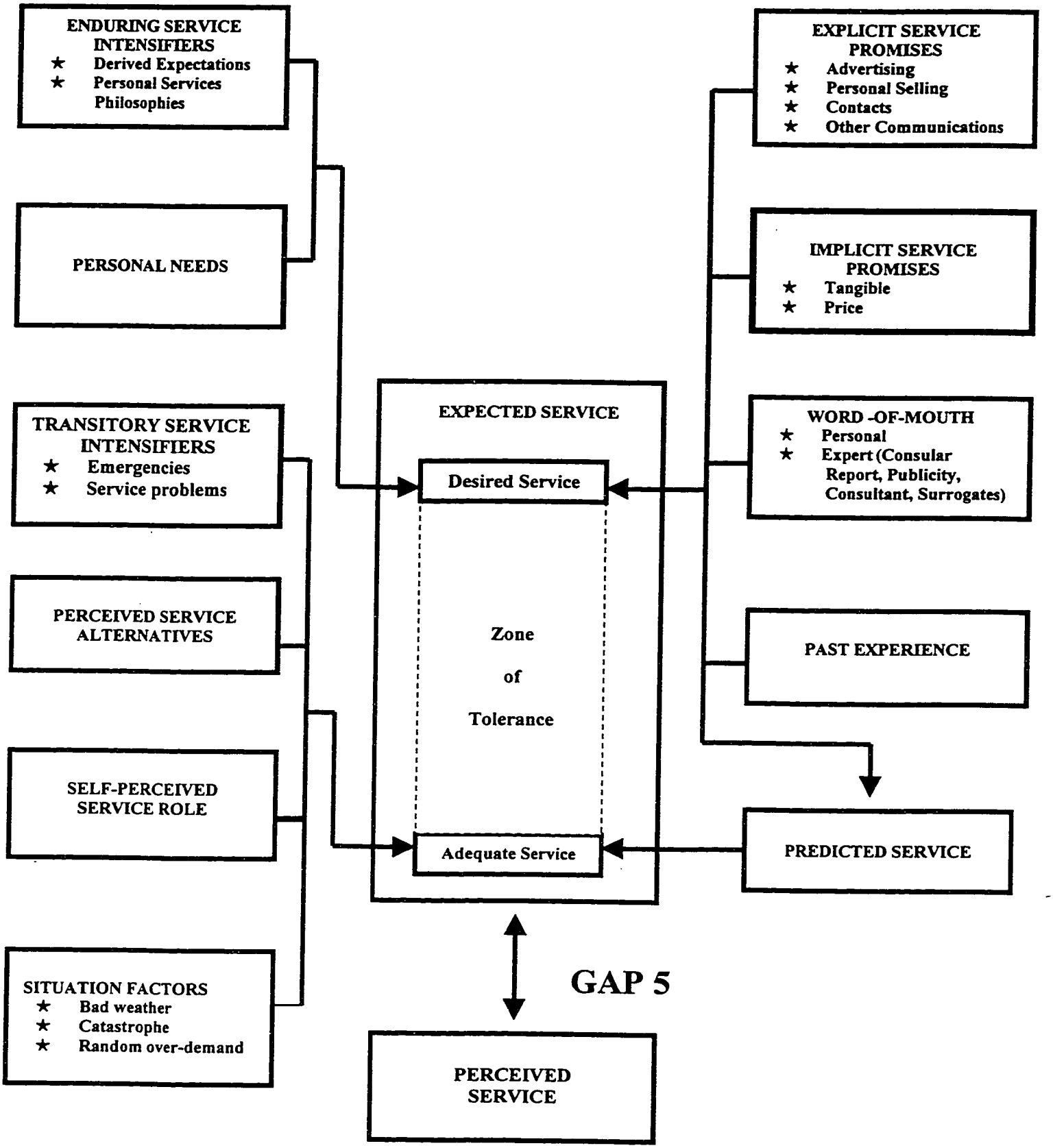


**FIGURE 6: Nature and Determinants Expectations of Service**

literature than it is in the consumer satisfaction literature in that service expectations do not represent predictions about what service providers "would" offer, but rather what they "should" offer. PBZ (1990) noted that the service expectations concept is "intended to measure customer's normative expectations" and these expectations represent an "ideal standard" of performance.

Carman (1990) suggests that service quality expectations involve "norms" and these "norms" are based on past experience. PZB (1985) definition of service expectations as ideal standards, but the ideal standard may be incompatible with the assumption that increasing (P-E) score reflects continually increasing levels of perceived quality. PBZ (1990) note that the SERVQUAL expectations measure is intended to measure "normative expectations".

PZB (1991) suggest that the SERVQUAL expectations concept "is similar to the ideal standard in the CS/D literature" such as:

1) Miller's (1979) "ideal expectations, defined as the wished for level of performance".
2) Swan and Trawick's (1980) "desired expectations, defined as the level at which the consumer wanted the product to perform.
3) Parakash's (1984) "normative expectations, i.e. how a brand should perform for the customer to be completely satisfied" which is the comparative expectations from other similar brands.

### 3.7.2 Types and Levels of Customer Expectations

ZBP (1993) proposed a model (Fig. 6) specifying three different types / levels of customer expectations (37):

1) Desired service: which reflects what a customer wants and hopes to receive. It is defined as "a blend of what the customer believes 'can be' and 'should be'". Liechty and Churchill (1979) view desired service as the level of performance the customer ought to receive, or deserve, given a perceived set of costs.

2) Adequate service: which reflects the standard that customers are willing to accept. Although customers hope to realize their service desires, they recognize that this is not always possible. Thus, they hold another level of expectation for the threshold of acceptable service. This level of expectation is comparable to Millar's (1977) minimum tolerable expectations, the bottom level of performance acceptable to the customer.

3) Predicted service: the levels of service customers believe is likely to occur.

### 3.7.3 Zone of Tolerance

ZPB (1985) stated that because services are heterogeneous, the performance may vary across providers, across employees from the same provider, and within the same service employee. Customer service expectations are characterized by a range of levels (bounded by desired and adequate service) rather a single level. ZBP (1993) proposed that " a zone of tolerance separates desired service from adequate service". It reflects the extent the customer

recognizes and is willing to accept heterogeneity. The zone of tolerance, representing the difference between desired service and the level of service considered adequate, can expand or contract.

ZBP (1993) found considerable variation in a customer's tolerance zones. Some customers had a narrow zone of tolerance, requiring a consistent level of service from providers, whereas other customers tolerated a greater range of service. They also found that an individual customer's zone of tolerance increases or decreases depending on the number of factors, including company-controlled factors such as price.

ZBP (1993) also found from the focus group interviews that customers might have a narrower zone of tolerance for some dimensions than for others (i.e. reliability, responsiveness, assurance, empathy, and tangibles). In particular, respondents seemed less tolerant about unreliable service (broken promises, service errors) than other service breakdowns.

The zone of tolerance could be zero (i.e. adequate and desired service will be at the same level). Fluctuation in the zone of tolerance is due to movement from one side (the adequate level) rather than the other (the desired service level). Usually, the fluctuation in the individual customer's zone of tolerance is more a function of changes in adequate service level, which moves up and down due to contextual circumstances, than a function of changes in the desired service, which tends to move incrementally and so in an upward direction due to the accumulation of experiences. Usually, desired service is relatively idiosyncratic and stable (expectations will not change when the market is tight but you become more tolerant) [37].

ZBP (1993) proposed that [37]:

1- Zone of tolerance varies across customers.
2- Zone of tolerance expands or contracts within the same customer.
3- The desired level is less subject to change than the adequate service level.

### 3.7.4 Sources / Antecedent Factors of Expectations

Prior customer expectation is the apriori image of what will be received when the customer purchases a service. Several factors influence that "a priori image". These include personal needs, past experience, word of mouth, market communication, image, and price. Knowing factors which most influence the formation of service expectations will help to identify their roles in changing expectation levels of customers. Thus the provider of service can be proactive in shaping the customer expectations through its marketing and external communication effort. Expectations are formed according to similar experiences brought to mind or according to an anchoring heuristic. Oliver (1980) suggested that forecasts are formed depending upon the individual's prior product experience, personal characteristics such as persuasibility, and the context of the situation [16]. Howard and Sheth (1969) offered the following three learning sources of expectation formation [16]:

1- Direct product (service) experience.
2- Experience with similar products (services), and
3- Information from both the social and commercial environment.

Cadotle, Woodruff and Jenkins (1987) discussed experience as a source of the experience norm and pointed out that focal brand expectations may be but one of several norms that operate. They suggested that the norm may also be derived

from the typical performance of a particular brand (the favorite brand, last purchased, the most popular brand) or that norm might be an average performance believed typical of a group of similar brands (a product type norm) [37]. Oliver (1980) ascribed expectations to three factors: the product itself, the context, and individual characteristics [37]. PZB (1985) acknowledged the importance of external company communication to customers in shaping expectations. ZBP (1993) developed a conceptual model (Fig. 6) explicating the general antecedents of expectations and how they are likely to influence expectation levels.

## Antecedents of Desired Service.

1) Enduring service intensifiers: These are individual, stable factors that lead the customer to a heightened sensitivity to service. "Where the customer's expectations are driven by another party." Enduring service intensifiers elevate the level of desired service.
2) Personal needs: These fall into physical, social and psychological needs. "A positive relationship exists between the level of personal needs and the level of desired service".

## Antecedents of Adequate Service.

1) Transitory service intensifiers: These are temporary short-term, i.e. personal emergency situations where the customer needs service. In the presence of transitory service intensifiers, the level of "adequate service will increase and the zone of tolerance will narrow".
2) Perceived service alternatives: These are customers' perceptions of the degree to which they can obtain better

service through providers other than the focal company (where there are several service providers to choose from). Sometimes different options do not exist; so, in effect, the customer has to settle for less. "The customer's perception that service alternatives exist raises the level of adequate service and narrows the zone of tolerance" [35].

3) Self–perceived service role: This is defined as the customers' perceptions of the degree to which they themselves influence the level of service they receive (customer involvement with the service). When provision of the service depends critically on customers' participation, their expectations are partly shaped by how well they believe they are performing their own roles. Customers' zones of tolerance seem to expand when they sense they are not fulfilling their roles. On the other hand when customers believe they are doing their part in delivery, their expectations of adequate service are heightened. "The higher the level of a customers self perceived service role, the higher the level of adequate service".

4) Situational factors: These are defined as service – performance contingencies that customers perceive are beyond the control of the service provider. The customer appears to recognize that these contingencies are not the fault of the service company and accepts lower levels of adequate service given the context. "Situational factors temporarily lower the level of adequate service, widening the zone of tolerance".

5) Predicted service: This is the levels of service customers believe they are likely to get. This variable is synonymous with the definition of expectations in the dominant paradigm in the CS/D literature (Oliver 1980; Olson and Dover 1979). If customers predict service levels will be low, their levels of adequate service decrease and their zones of tolerance widen.

ZBP (1993) proposed "the higher the level of predicted service, the higher the level of adequate service and the narrower the zone of tolerance".

## Antecedents of Both Desired and Predicted Service.

Beales (1981) describes two categories of search for information about product quality: External & Internal.

A. External search, which includes information acquired actively, such as calling a store or passively such as watching TV. three factors categorized as external affect both desired and predicted service:

1. Explicit service promises are personal and non-personal statements about the service made to customers by the organization. These promises take different forms, among them advertising, personal selling, contacts and communications from service or repair departments. The nature of the effects of explicit promises may vary depending on the difficulty consumers have in evaluating product or service quality. The more ambiguous the available evidence about quality, the larger and more dramatic the effects of advertising. ZBP (1993) proposed that "The higher the level of explicit service promises, the higher the levels of desired service and predicted service".

2. Implicit service promises are service – related cues other than explicit promises that lead to inferences about what service should be and will be like. These quality cues include price and tangibles associated with the service. Zeithaml (1988) found that "customers often use price and tangibles as surrogates of quality." If there are two firms charging

different prices, customers may make the inferences that the firm with the higher prices should and will provide higher quality service. The focus group (ZBP, 1993) emphasized the importance of implicit promises, particularly price, in shaping their expectations. "Implicit service promises elevate the levels of desired service and predicted service".

3. Word of mouth communication: (WOM)

These personal and sometimes non-personal statements made by parties other than the organization convey to customers what the service will be like i.e. (what they can expect). WOM carries weight as an information source because it is perceived as unbiased. It is quite important in services because services are difficult for customers to evaluate prior to purchasing and directly experiencing them. Experts (including consumer reports and friends) all are sources that affect the levels of desired service and predicted service. "What you hear from others about higher levels, can influence my expectation levels". ZBP (1993) proposed "positive WOM communication elevates the levels of desired and predicted service". Past research indicates that WOM is highly variable content and is determined by both personal and situational factors [15].

4. Past experience: Internal search factor and past experience, also influence both desired and predicted service. The customer's previous exposure to service that is relevant to the focal service, is another force in shaping predictions and desires. A respondent from the focus group stated: "my expectations are definitely influenced by my past experience... my expectations are more realistic because of the knowledge I've gained" [37]. ZBP (1993) concluded

that " A positive relationship exists between levels of past experience with a service and the levels of desired and predicted service".

### 3.7.5 Reasons for Different Sources and Types of Expectations

If many first-time customers use the service, such as a hospital, expectations will not be well formed, and a seller is well advised to determine just how well formulated and how realistic the expectations of these new customers may be. For commonly used services, such as telephone service, the expectation of regular customers may be adequate [9]. Carman (1990) suggested that for new services, expectation might be set to zero. For frequently used services, the values of expectation may be stable and homogeneous across subjects so mean values might be used across subjects.

ZBP (1993) found from the 16 focus group interviews of end and business – customer groups, of experienced and inexperienced customers and of customers of pure and product related services that:

1) Pure services (e.g. insurance) may generate different expectations than services associated with tangible products (e.g. equipment repair).
2) Business customers expectations might differ from those of end customers.
3) Experienced and inexperienced customers could have differing expectations because of varying levels of familiarity with the service.

Distinction between experienced and inexperienced customers were typically made on the basis of service contacts within a certain period of time. Expectations changed over time due to over experience and number of contacts [37].

## 3.8 Customer's Perceptions

In addition, customers may be influenced by the perceived experiences of other customers. PZB (1985) propose that customer perceptions of service quality are a function of the difference between the service expected and customer perceptions of the actual service delivered. These service expectations are normative expectations indicative of customer expectations for what should happen during the service encounter (PZB 1988). PZB (1985) suggest that customers develop normative expectations for each of the four components of service quality and compare these expectations with their perceptions of the actual service delivered.

The customer has a set of normative expectations associated with the service encounter for what the service employee should do (employee technical quality), how the service customer should do (customer technical quality), and how the customer should behave (customer functional quality). The customer then develops perceptions of actual behavior of the service provider for employee technical and functional quality and self-perceptions of this actual behavior for customer technical and functional quality.

The customer compares each set of normative expectations with his perceptions of associated actual behavior of employees and customers in order to develop service quality perceptions for each of the components. In the service marketing literature, perceptions

were defined as consumers' beliefs concerning the service received (PZB, 1985) or experienced service (Brown and Swartz 1989) [30]. Practitioners often measure the determinants of overall satisfaction / perceived quality by having customers simply assess the performance of the company's business processes [25]. Though the practice of measuring only perceptions is widespread, such a practice does not necessarily mean performance – based measures are superior to disconfirmation – based measures. ZBP (1993) proposed that "customers assess service performance based on two standards: what they desire and what they deem acceptable". This is because the customer's view of what a service "should be" exists at two levels: a desired level and an adequate level.

## 3.9 The Service Quality Gap Model

### 3.9.1 The Model

The conceptual model attempts to show the relationships that exist between salient variables. It is a simplified description of quality [8]. The purpose of these models is to enable management to identify quality short falls and to enhance the quality of the organization and its offering in a systematic manner [14].

The GAP model was developed by Parasuraman, Zeithamal and Berry in order to show the salient activities of the service organization that influence the perception of quality. The proposed conceptual model is based on interpretation of qualitative data generated through a number of in-depth executive interviews and consumer focus groups. It shows the interaction between key activities and identifies the linkages between these activities of the service organization which are pertinent to the delivery of a satisfactory level of service quality.

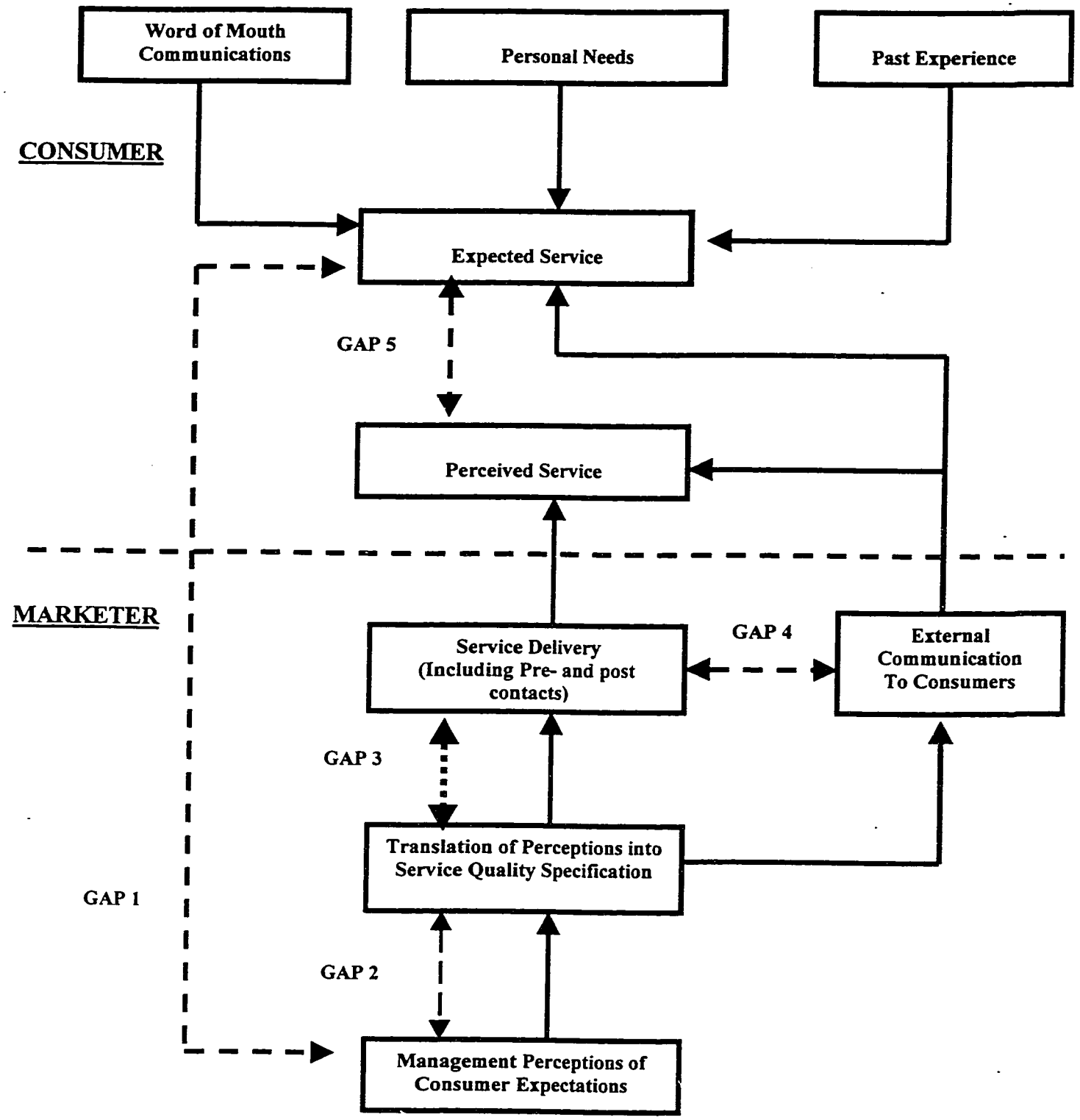


**FIGURE 7: The GAP Service Quality Model**

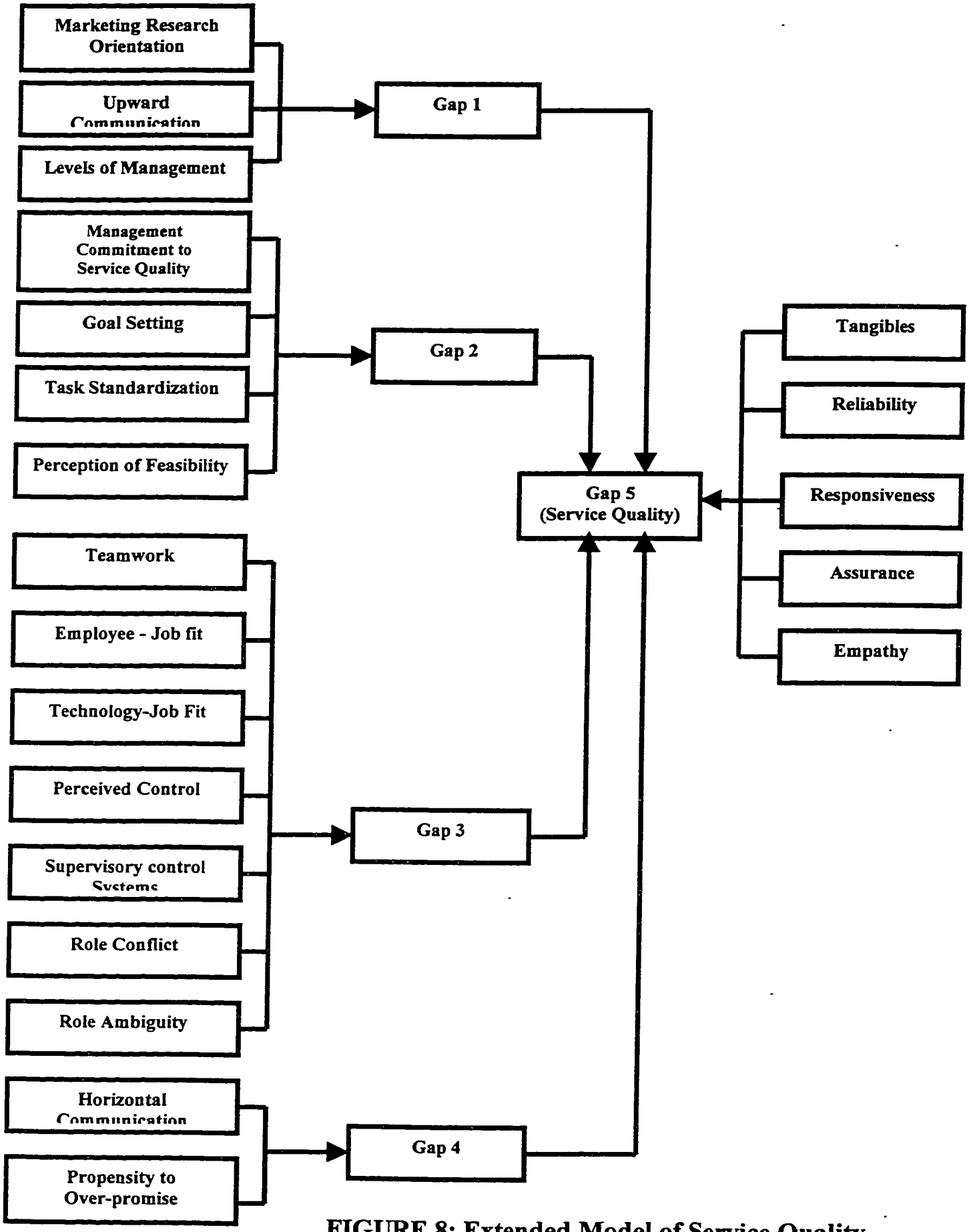


**FIGURE 8: Extended Model of Service Quality**

The links are described as gaps or discrepancies which represent a significant service quality. A gap represents a significant hurdle to achieving a satisfactory level of service quality. The gaps between perceptions of the clients and service providers interns of expectations and perceived results constitute the model.

The gap service quality model (Fig.7) measures five gaps in perceptions, including gaps within the service provider, within the client and between each party.

Gaps 2, 3 and 4 related to issues that are internal to the service provider and involve organizational culture, while gap 5 is purely an external one (within the clients). Gap 1 involves both parties. This means that while gap 5 requires purely external measurement all other gaps require internal measurement. The consumer's view of service quality is shown in the upper part. Service quality as perceived by a consumer depends on the size and direction of gap 5 which in turn, depends on the nature of the gaps associated with the design and delivery of services:

$$GAP\ 5 = f(gap\ 1, gap\ 2, gap\ 3, gap\ 4)$$

The four discrepancies or gaps on the provider side (lower part) of the equation can be favorable from service quality perspective. That is, the magnitude and direction of each gap will have an impact on service quality. Set of factors potentially affecting the magnitude and direction of the provider's side. Most of these factors involve communication and control processes implemented in organizations to manage employees. Other factors involve consequences of these processes (i.e. role ambiguity and role conflict) that affect the delivery of service quality [35].

Fig. 8 is an extended model of service quality, showing the various organizational constructs and their relationships to the service quality gaps.

***The five gaps are described in detail below:***

**GAP 1**: Consumer Expectation - Management Perception Gap.

This gap arises when management does not know what customers expect or have inaccurate perceptions of what consumers actually expect. The wrong perceptions arise when management misinterpret, under estimate or fail to understand customers' requirements. Service firm executives may not always understand what features connote high quality to consumers, what attributes a service must have in order to meet consumer needs, and what levels of performance on those features are necessary to deliver high quality service [35].

PZB (1985) found that many of the executive perceptions about what consumers expect in a quality service were congruent with consumer expectations revealed in the focus groups. This lack of understanding may affect quality perceptions of consumers. They proposed "the gap between consumer expectations and management perceptions of these expectations will have an impact on the consumer's evaluation of service quality"[23].

Because there are few clearly defined and tangible cues for services, the gap between what consumers expect and what managers think they expect may be considerably larger than it is in firms that produce tangible goods [35]. Zeithaml believed that this gap may be larger in services than in manufacturing companies, because services have few clearly defined and tangible cues [8].

*In equation form :*

**GAP 1 = Customer Expectations - Management Perceptions of Customer Expectation.**

The lower the difference, the better, i.e. management's show excellent understanding of customers' needs.

The size of gap 1 in any service firm is proposed to be a function of marketing research orientation, upward communication, and levels of management:

(1) Marketing research orientation: because marketing research is a key for understanding consumer expectations and perceptions of services, the size of gap 1 should depend greatly on the amount of marketing research conducted. Other related variables include the extent to which research data are used by managers in organization and the degree to which the research focuses on service quality issues.

Another factor influencing degree of marketing research orientation is the extent to which top managers interact directly with consumers. As the degree of contact between top managers and consumers increases, top managers should understand the consumer better and the size of gap 1 should decrease.

(2) Upward communication: Top managers, however, may not have a grasp of consumer quality expectations and perceptions. Understanding of the consumer may depend largely on the extent and types of communication received from consumer-contact personnel and from non-company personnel. Upward communication provides information to

upper levels and could be formal (i.e. reports) or informal (i.e. discussions between contact personnel and upper level managers). An important facet of upward communication is its quality or effectiveness, which in turn depends on the medium through which it occurs. Face-to-face communication, for example, is more effective than written communication because it uses several communication cues (verbal and visual) simultaneously. Face to face communication is preferred when a message is difficult or ambiguous.

PZB (1988) proposed that three specific variables influence the effectiveness of upward communication and hence the size of gap 1: extent of employees-to-managers communication, extent to which inputs from contact personnel are sought and quality of contact between top managers and contact personnel.

(3) Levels of management: The number of layers of management between customer-contact personnel and top managers is expected to affect the size of gap 1. Layers of management inhibit communication and understanding because they place barriers between senders and receivers of messages. Therefore, the greater the number of layers between customer contact personnel and top managers, the larger gap 1 is expected to be.

The gap between consumer expectations and management perceptions of consumer expectations depends on the extent to which a company recognizes the importance of the consumer (marketing research orientation), receives accurate communication about consumers' needs (marketing research,

upward communication), and places barriers between contact personnel and top managers (levels of management) [35].

ZBP (1988) proposed that the size of gap 1 is related to [35]:

(1) Extent of marketing research orientation (-).
(2) Extent of quality of upward communication (-).
(3) Levels of management (+).

**GAP 2** : Service Quality Specification Gap.

This is the GAP between managers' perceptions of customers' service expectations and the quality standards they establish to translate those perceptions into specifications for delivering the appropriate level of service. It arises when the management is unable to translate customer expectations into service quality specifications. It relates to aspects of service design.

PZB (1985) found the difficulty experienced in attempting to match or exceed consumer expectations. It is difficult to establish specifications to deliver quick response consistently because of lack of trained service personnel and fluctuations in demand. Another reason for the gap between expectations and actual specification is due to management commitment to service quality [23].

Variety of factors: resource constraint, market conditions (i.e. peak demand in summer season), and management indifference may result in a discrepancy between management perceptions of consumer expectations and the actual specifications established for a service [23].

PZB (1985) proposed that the gap between management perceptions of consumer expectation and the firm's service quality

specifications will affect service quality from the consumer's view point.

*In equation form :*

**GAP 2 = Management's Perception of CEs - Service Quality Specifications.**

The lower the difference, the better, i.e. management perfectly translates cues into service quality specifications. The size of gap 2 in any service firm is proposed to be a function of management commitment to service quality, good goal setting, task standardization, and perception of feasibility [35]:

(1) Management commitment to service quality: One explanation for gap 2 is the absence of total management commitment to service quality. Emphasis on other objectives such as cost reduction and short term profit has outcomes that are more easily measured and tracked and may supercede emphasis on service quality. Specific variables related to meet a commitment to service quality include the proportion of resources committed to service quality (rather than to other goals). The existence of an internal quality program, and the extent to which managers believe their attempts to improve service quality will be recognized and rewarded in the organization.

(2) Goal - setting: companies that have been successful in delivering high service quality are noted for establishing formal goals relating to service quality. Effective goals characteristics (Locke et al 1981) : specific, accepted, cover important job dimensions, reviewed with appropriate feedback, measurable, challenging but realistic. The development of service goals involves defining service quality in ways that enable providers to

understand what management wants to deliver. The existence of a formal quality program that includes identification and measurement of service quality standards is expected to be one variable that reduces the size of gap 2.

(3) Task standardization: The effective translation of managerial perceptions into specific service quality standard depends on the degree to which tasks to be performed can be standardized or routinized. Technology can serve to standardize and regularize employee behavior. If jobs or tasks are routine, specific rules and standards can be established and effectively executed. Even in highly customized services, however, some aspects of service provision can be routinized. ZBP 1988 proposed that the more managers can standardize tasks for service delivery, the smaller gap 2 will be.

(4) Perception of feasibility: The size of gap 2 to be affected by the extent to which managers perceive that meeting customer expectations is feasible. The greater the management perception that consumer expectations cannot be fulfilled, the larger gap 2 will be. Variables related to this construct include the organizational capabilities and systems for meeting specifications and the degree to which managers believe expectations can be met economically. ZBP 1988, proposed that the size of gap 2 is related to:

(a) Management commitment to service quality ( - ).
(b) Setting of goals relating to service quality ( - ).
(c) Task standardization ( - ).
(d) Perception of feasibility for meeting customer expectations ( - ).

**GAP 3**: The Service Performance (Delivery) Gap.

Gap 3 is the discrepancy between the specifications for the service and actual delivery of the service. It is referred as the service performance gap, that is, the extent to which service providers do not perform at the level expected by management (35). This gap arises when guidelines for service delivery do not guarantee high quality service delivery or performance. It measures the performance gap between service specifications and service delivery. The size of this gap depends upon employees' willingness and ability to perform at the appropriate level.

Even when guidelines exist for performing services well and treating consumers correctly, high quality service performance may not be a certainty. A service firm's employees exert a strong influence on the service quality perceived by consumers and the employee performance cannot always be standardized. "Every thing involves a person, so it is hard to maintain standardized quality" [23]. However, each firm reported difficulty in adhering to these standards' because of the variability in employee performance.

PZB (1985) proposed that the gap between service quality specifications and actual service delivery will affect service quality from the consumer's standpoint. They state that organizations with multiple sites and labor intensive service applications are most likely to experience this gap. Gap 3 will be favorable when actual service delivery exceeds specifications. It will be unfavorable when service specifications are not met.

***In equation form:***

**GAP 3 = Service Quality Specification - Service Delivery.**

The lower the difference, the better, i.e. an employee is perfectly able to deliver the appropriate service level.

The main theoretical constructs proposed to account for the size of gap 3 are: teamwork, employee - job fit, technology - job fit, perceived control, supervisory control systems, role ambiguity and, role conflict [35]:

1) Teamwork: teamwork is the focus of service quality programs in several firms known for their outstanding customer service. It is proposed the following aspects as being critical to teamwork: the extent to which employees view other employee as customers, the extent to which employees feel management cares about them, the extent to which employees feel they are cooperating rather competing with each other, and the extent to which employees feel personally involved and committed.

2) Employee - job fit: service quality problems often occur because contact personnel are not well suited to their positions. Because customer contacts jobs tend to be situated at the lower levels of company organization charts, personnel holding these jobs are frequently among the least educated and lowest paid employees in their companies. As a result, they may lack language, interpersonal, or other skills to serve customers effectively. Managers commonly do not pay enough attention or devote sufficient resources to the hiring and selection processes. It is proposed that emphasis on matching the employee to the job through selection processes and consequently the ability or skill of employees to perform the job affects the size of gap 3.
3) Technology - job fit: Provision of high service quality also depends on the appropriateness of the tools or technology the

employee uses to perform the job. Technology and equipment can enhance the service employee's performance. Appropriate and reliable technology must be provided for high quality service delivery.

4) Perceived control: The notion of perceived control suggests that individuals' reactions to stressful situations depend on whether they can control those situations. ZBP (1988) proposed that when service employees perceive themselves to be in control of situations they encounter in their jobs, they experience less stress. Lower levels of stress, in turn, lead to higher performance. When employees perceive that they can act flexibly rather than by rote in problem situations encountered in providing services, control increases and performance improves. Perceived control can be a function of the degree to which organizational rules, procedures, and culture limit contact employee flexibility in serving customers. It can also be a consequence of the degree to which an employee's authority to achieve a specific outcome with customers lies elsewhere in the organization. When a contact person must get the approval of other departments in the organization before delivering a certain service, service quality is jeopardized. Though the contact person may be totally committed to service the consumer, he cannot perform well because control over the service has been dispersed among multiple organizational units. Perceived control can be a function of the predictability of demand, which is a major problem in the service business (ZPB, 1985).

5) Supervisory control systems: In some organizations, the performance of contact employees is measured by their output (e.g. the # of units produced per hour). In these situations, the performance of individuals is monitored and controlled through what are termed "output control systems" (Ouchi, 1979). In

many service organizations, however, output control systems may be inappropriate or insufficient for measuring employee performance relating to provision of quality service. In these service situations, performance can also be monitored through behavioral control systems (Ouchi, 1979) which concentrate on the way the employee works or behaves rather than output measurements.

6) Role conflict: When the expectations of people are incompatible or too demanding, employees experience role conflict, the perception that they cannot satisfy all the demands of all these individuals. Research has shown that perceived role conflict is related positively to feelings of job - related tension and anxiety and negatively to job satisfaction. Because contact employees are the links between the company and the consumer, they must satisfy the needs of both. Sometimes the expectations of the company and the expectations of the consumer conflict. Managers can inadvertently create role conflict for employees through excessive paperwork or unnecessary internal roadblocks. A service organization that recognizes inherent conflicts in the contact person's job will go far in eliminating the distress of role conflict. The result will be better employee performance and hence a reduction of gap 3. Use of performance measurement systems that focus on consumer in addition to internal efficiency goals is one example of how role conflict can be reduced. Compensation tied to delivery of service quality (by measures of consumer satisfaction, loyalty, etc.) is another.

7) Role ambiguity: When employees do not have the information necessary to perform their jobs adequately, they experience role ambiguity. Role ambiguity may occur because employees are uncertain about what managers or supervisors expect from them

and how to satisfy those expectations or because they do not know how their performance will be evaluated and rewarded (Churchill & Ford 1977). Several organizational variables moderate the role ambiguity experienced by service employees. The frequency, quality and accuracy of downward communication are likely to affect the service employee's role ambiguity. Downward communication involves job instructions used by managers to direct and influence personnel at lower levels in the organization. The more frequently managers provide clear and unambiguous communication, the lower employee's role ambiguity will be. The size of gap 3 is related to:

(a) Extent of teamwork perceived by employee (-)
(b) Employee job fit (-).
(c) Technology job fit (-).
(d) Extent of perceived control experienced by customer contact personnel (-).
(e) Extent to which behavioral control systems are used to supplement output control systems (-).
(f) Extent of role conflict experienced by customer contact personnel (+), and
(g) Extent of role ambiguity experienced by customer contact personnel (+).

**GAP 4** : External Communication Gap.

This gap arises when promises do not match service delivery. Overstating the level of service (promising more than you can deliver) will quickly lead to customer dissatisfaction and complaints.

Media advertising, word of mouth and other communications by a firm can affect consumer expectations. Since expectations play a

major role in consumer perceptions of service quality, the firm must be certain not to promise more in communications that it can deliver in reality. Promising more than can be delivered will raise initial expectations that lower perceptions of quality when the promises is not fulfilled. [23]

Consumers are not always aware of every thing done behind the scenes to serve them well. Consumers who are aware that a firm is taking concrete steps to serve their best interests are likely to perceive a delivered service in a more favorable way. Consumer expectations are fashioned by the external communications of an organization. A realistic expectation will normally promote a more positive perception of service quality. So, a service organization must ensure that its marketing and promotion material accurately describes the service offering and the way it is delivered. To sum up, external communication can affect not only consumer expectations about a service but also consumer perceptions of the delivered service.

PZB (1985) proposed that the gap between actual service delivery and external communications about the service will affect service quality from a consumer's standpoint.

*In equation form :*

**GAP 4 = Service Delivery - External Communication to customers.**

The lower the gap, the better i.e. the promotion program of the company accurately describes the service delivered.

The key contributing factors of this gap include inadequate horizontal communication between advertising, marketing and operations, differences in policies & procedures across branches or departments and propensity to overpromise [35]:

1) Horizontal communication: Horizontal communication deals with the lateral information flows that occur both within and between departments of an organization. If miscommunication occur between contact personnel and advertising personnel, contact personnel may not be able to deliver service that matches the image presented in advertising. ZBP (1988) found that contact personnel expressed the need to be aware of all company communications before they run as a basis for monitoring and responding to the consumer's advertising-induced expectations.

An important aspect of horizontal communication is the coordination or integration of departments in an organization to achieve strategic objectives. One obvious form of coordination necessary in providing service quality is the consistency in policies and procedures across departments and branches. If a service organization operates many outlets under the same name, consumers will expect similar performance across those outlets.

2) Propensity to overpromise: Because of the increasing deregulation and intensifying competition in the service sector, an intuitive explanation for gap 4 is that many service firms feel pressured to acquire new business and to meet or beat competition, and therefore tend to overpromise. To summarize ZBP (1988) proposed that the size of gap 4 is related to :

(a)Extent of horizontal communication ( - ).

(b) Propensity to overpromise ( + ).

**GAP 5** : Expected Service - Perceived Service Gap.

This gap measures the difference between customers' expectations of service quality and perceived level of service received from the company in question. The key to ensuring good service quality is meeting or exceeding what consumers expect

from the service. It appears that judgement of high and low service quality depends on how consumers perceive the actual service performance in the context of what they expected [36].

PZB (1985) proposed that the quality that a consumer perceives in a service is a function of the magnitude and direction of the gap between expected service and perceived service.

*In equation form:*

**GAP 5 = Expected Service Delivery - Perceived Service Delivery.**

Service quality as perceived by consumers depends on the size and direction of gap 5, which in turn depends on the nature of the gaps associated with the delivery of service quality on the provider's side [9].

ZBP (1993) proposed that two types of service quality assessment are made by consumers: perceived service superiority and perceived service adequacy. These two service quality assessments replace the single gap 5 in the gaps model (Fig. 1). The comparison between desired service and perceived service, which is called the perceived service quality gap 5A, is the perceived service superiority gap. The comparison between adequate service and perceived service, called perceived service quality gap 5B, is the perceived service adequacy gap [37].

The smaller the gap between desired service and perceived service, the higher the perceived superiority of the firm. Also, the smaller the gap between adequate service and perceived service, the higher the perceived service adequacy of the firm.

### 3.9.2 Perceived Service Quality

Quality in a service organization is a measure of the extent to which a delivered service meets the customer's expectations. It is determined by the customer's perception and not by the perceptions of the providers of the service. It is, therefore, very important to determine customer needs & wants and, then design the service to meet these requirements.

The perceived quality is the customer's feelings about the quality of the service. It determines the extent of the customer's satisfaction. It is the results of comparing the prior expectations with the actual service received. The prior customer expectation is the established image of what will be received when the consumer requests a service, while the actual quality is the real level of service quality provided. The actual service is determined and controlled by the provider of the service. It is, therefore, necessary to set standards of service quality characteristics, i.e. determinants of service quality [14]. Customers assess the quality of service transactions via this model [8]:

***Perceived Service = Anticipated Service - Actual Service.***

The perceived quality lies along a continuum. Unacceptable quality lies at one end of this continuum, while ideal quality lies at the other end. The points in between represent different gradations of quality. One such point is satisfactory quality [14].

Lehtinen argues that it is necessary to differentiate between the quality associated with the process of service delivery and the quality associated with the outcome of the service [14]. So, the perception of quality is influenced not only by the service outcome but also by the service process.

To sum up, the measurement of service quality is based on the perceived quality in comparison to the customer's expectations. When perceived quality is higher than the customer's expectations, it is rated as ideal quality, while it is rated as unacceptable quality when perceived quality is lower than customer expectations. When customer's expectation are exactly met, it is rated as satisfactory quality. Ideal and satisfactory quality can be attained if the customer's expected quality is understood.

### 3.9.3 Operationalization of Service Quality

The SERVQUAL scales operationalize and measure service quality along five distinct dimensions: tangibles, reliability, responsiveness, assurance and empathy. It involves the subtraction of the subjects' expectations of the service they would receive from their perceptions of the service they actually did get with respect to specific items. SERVQUAL scores along these dimensions can be viewed as indicators of the construct of perceived service quality or can be averaged across the 22 pairs of items to produce a total score for service quality. The perceived service quality can be operationalized by the following (P-E) measurement model [30]:

$$SQ_i = \sum_{j=1}^{k} W_j \quad (P_j - E_j) \qquad (1)$$

Where:

| | | |
|---|---|---|
| $SQ_i$ | = | SERVQUAL overall perceived quality of dimension i. |
| k | = | The number of attributes in the dimension |
| Wj | = | A weighting factor if attributes have differential weights |

$P_j$ = Performance perception with respect to attribute j that is the relevant norm for dimension i

$E_j$ = Service quality expectation for attribute j that is relevant norm for dimension i.

The equation suggests that perceived service quality ($SQ_i$) increases as the difference $P_j - E_j$ increase across attributes. It also suggests high performance on essential attributes (high E*) scores reflects lower quality than high performance on attributes that are less essential (low E*) scores. PZB (1988) emphasize that (P-E) the service gap concept represents a comparison with a norm. It does not represent a difference between predicted and received service. Exceeding the norm means high quality is received and falling short of the norm means low quality is received. The (P-E) service concept as expressed in the equation is not a predictive model. It is a measurement specification in which perceived quality is equivalent to perceptions minus expectations [30].

The traditional method of operating the (P-E) gap concept is to obtain perception and expectation scores for each attribute and calculate service quality by the above equation. The average of the difference scores making up a dimension serve as the measure of the facet while the average score across all items serves as the overall measurement of service quality [7]:

$$\text{Measurement of facet} = \sum_{i=1}^{n} SQ_i / n \qquad (2)$$

Where n = number of items in the dimension
i = the item number in the dimension

***For example: service quality measure for (tangibles) = (SQ1+SQ2+SQ3+SQ4)/4***

$$Overall \quad SQ = \sum_{i=1}^{22} SQ_i/22 \qquad (3)$$

These SERVQUAL scores may be used individually for diagnostic purposes or may be used to obtain an overall service quality. The unweighted (P-E) service quality is calculated by combining the Pj and Ej ratings and assuming Wj = 1. The weighted service quality was calculated by combining the Pj and Ej ratings according to the equation.

The higher (more positives) the perception –minus-expectation score, the higher is the level of perceived service quality. The (P-E) measurement framework suggests the highest service quality score for an attribute occurs when expectation score is (+1) and perception score is (+7), giving a service quality score of (+6), (7-1). If perceptions fall short of expectations, the company receives a minus score. The bigger the minus score, the worse the company's service quality. The lowest service quality is one in which the expectation score is (+7) and the perception score is (+1), giving a service quality score of (-6), (1-7). Therefore, increasing levels of quality as scores move from –6 to +6 [7].

The (P-E) model results in various perception and expectation values producing identical perception and expectation scores. For example, there are 7 perception and expectation combinations that produce (P-E) scores to zero (P = 1 and E = 1, P = 2 and E = 2,..... P = 7 and E = 7). Tied (P-E) values can be expected to correspond to equal perceived quality.

### 3.9.4 Model Deficiencies

Several researchers replicated PZB analysis of SERVQUAL instrument and concluded that the conceptualization of service quality as a difference of two constructs leads to a number of potential problems. The five major shortcomings are presented below as viewed by those researchers with the response of PZB.

#### 1. Difference Scores

Difference scores involve the subtraction of scores on one measurement from another measurement to create a new variable which is used in subsequent data analysis. The literature points out the problems associated with defining a construct on the basis of the difference scores. With SERVQUAL, service quality is assessed by subtracting subjects' rating of expected level of service from the ratings of the actual level of service received with respect to each of a number of specific items representing five dimensions of a service.

The conceptualization of service quality as a difference score leads to a number of potential problems [7]. An approach of the difference of two measures may be problematic in view of the difference in the stability of the two measures and potential problems with operationalizing constructs as difference scores in models involving multiple constructs [37].

PZB (1988), present operationalized service quality as the difference between performance perceptions and expected level of service. It is important to recognize when people are asked to indicate a "desired level" and "existing level" on a particular

attribute, a number of psychological constraints may be achieved to make the resulting deficiency scores problematic [4]. When people respond to "What is desirable" and "how much is there now", they seldom rate the former lower than the latter. Hence, the "desired level" scores may exceed the "existing level" scores consistently for no other reason than this type of response tendency. As a consequence of this psychological constraint, the resulting "deficiency" scores may be dominated primarily by the "existing level" scores [4].

Carman (1990) was concerned about how much experience the respondent should have with the service before answering expectation. For commonly used services, such as telephone service, the expectations of regular customers may be adequate, and the mean value of each expectation item could be subtracted from each individual's perceptions. This procedure would amount to an adjustment to the mean value of each perception item. However, this procedure only subtracts a constant from the item score of each subject. It does not introduce new variability. Factor analysis would then be done on both perceptions data and the difference between perceptions and mean expectations [9].

Cronin and Taylor (1992) concluded that it is unnecessary to measure customer expectations in service quality research. They support the superiority of simple performance – based measures of service quality [25]. Babakus and Bolar (1992) also support the use of performance based measures of service quality gap measures. PZB (1994) concluded customer's assessment of overall service quality is also directly affected by performance level and suggest that disconfirmation measures (P-E) provide richer information than do performance based

measures (SERVPERF) and have a greater diagnostic value for managers.

PZB asked the same respondents to complete both expectations and perceptions from one administration. Thus, there was not a before and after administration. The only setting where expectations was administered as the customers was beginning to utilize the service and then administering the perceptions approximately five weeks later, after the service had been used rather heavily. Respondents at the time of completing the expectations battery had expectations, but they were not based on experience. These expectations could be described, as the aspects of service they expected should be important indicators of quality. After using the service, they were far more knowledgeable and their assessment of quality was both different and more clear [9].

Carman (1990) stated that it is desirable to analyze expectations and perceptions at the individual level and suggested collecting the data in terms of (P-E) difference directly rather than asking questions about each separately. Babacus (1992) agrees with Carman's (1990) suggestion that an alternative format combining both expectations and perceptions in single items may prove a viable approach. The items with this format would be presented with anchors "greatly exceed expectations" and "greatly falls short of expectations". This task would be simpler for respondents and the format would prevent potential problems with the difference scores [4].

PBZ (1993) critique the seriousness and shortcomings regarding the difference scores of service quality by stating the following:

1- The perception ratings alone may not lead to the same (or correct) practical implications as the perceptions – expectations difference scores.
2- Measuring expectations and perceptions separately also allows managers to better understand the dynamic of customer's assessments of service quality over time. For example, if SERVQUAL scores for certain items have declined significantly from one period to another, managers can assess whether this is due to higher expectations, lower perceptions or both. This information is not available when perceptions relative to expectations are measured on the same scale.
3- The gathered data can serve equally well the dual objectives of accurately diagnosing service shortfalls and explaining the variance in related variables. Difference scores can be used for the former while perceptions score alone can be used for the latter (although the available evidence does reveal expectations to presume superiority of perceptions scores in explaining variance).

## 2. Ambiguity with Expectations

Empirical research has identified important problems concerning the operationlization of the service expectation concept. Teas (1993) suggests a lack of congruence between the conceptual and operational definitions of the original SERVQUAL expectation measure. PZB (1990) suggest that the word "should" may cause the respondents to assign unrealistically high ratings to the expectation response scales, and therefore propose the revised E* ("would") [30]. The revised SERVQUAL expectation measure E*, which requests the respondents to focus on "companies that would deliver excellent quality" has eliminated the ambiguity associated with expectation concept [30]. Teas (1993) thinks that

the considerable portion of the variance in responses to the SERVQUAL "E" scale is because of variance in respondents' interpretation of the question being asked rather than variance in respondents' attitudes. Teas (1993) highlights the potential problem with (P-E) specification of service quality when the features on which service is evaluated are not vector attributes.

Teas (1993) concluded from his empirical tests and the review of the service quality literature that the SERVQUAL "E" concept represents:-

1- The conceptualization of "E" as an ideal standard suggests a possible classic attitudinal model ideal point interpretation. This will lead to the performance levels that exceed the ideal standard in higher perceived quality than performance levels that equal the ideal standard.
2- If "E" is interpreted as representing a feasible ideal point concept, a positive monotonic linkage between the SERVQUAL (P-E) measure and perceived quality would not be expected when the attributes involved are a finite ideal point.
3- The revised SERVQUAL "E*" measure expectations in terms of the degree to which they are essential. However, high performance on essential attributes reflects lower perceived quality than high performance on less essential attributes.

PZB (1994) stated that the (P-E) specification could be problematic when a service attribute is a classic ideal point attribute – that is, one on which a customer's ideal point is at a finite level, and, therefore, performance beyond that will displease the customer. However, the severity of the potential problem depends on how the expectations norm is interpreted. Teas (1993) offers two interpretations of expectation that help in assessing the meaningfulness of the (P-E) specification: "a

classic attitudinal model ideal point" interpretation and a "feasible ideal point" interpretation. Based on Teas suggestions, PZB (1994) offered the following explanation:

1- If expectation is interpreted as the classic ideal point (E = I) and the performance level P exceeds E, the relationship between perception and service quality for a given level of expectation becomes negative monotonic, in contrast to the positive monotonic relationship implied by the SERVQUAL formulation. Under this classic ideal point interpretation of expectation the (P-E) specification is meaningful as long as perception is less than or equal to expectation, but becomes a problem if perception exceeds expectation. When this condition occurs, the correct specification for service quality is – (P-E).

2- To examine the (P-E) specifications under the feasible ideal point interpretation, Teas proposed "a modified one attribute SERVQUL model" MQ:

$$MQ = -1\ \{|P - I| - |E - I|\} \qquad (4)$$

Where I = The ideal amount of the attribute
E = The expectation norm interpreted as the feasible ideal point
P = The perceived performance level.

Teas defines feasible ideal point as " a feasible level of performance under ideal circumstances, that is, the best level of performance by the highest quality provider under perfect circumstances". As long as the perceived performance (P) does not exceed the classic ideal point (I), MQ is equivalent to SERVQUAL'S (P-E) specification, regardless of whether perception is below or above the feasible ideal point (E). When P>I under feasible point interpretation of expectation, SQ = $(I - E) - (P - I)$

PZB (1994) explanation implies the following mixed – model specification that takes into account service attributes type as well as interpretation of the comparison standard E :

$$SQ = \sum_{j=1}^{m} \{(P_j - E_j) D_{ij} - (P_j - E_j) \quad D_{2j} + [(I_j - E_j) - (P_j - I_j)] D_{3j}\} \qquad (5)$$

Where:

$D_{1j}$ = 1 if j is vector attribute or if it is a classic ideal point attribute and Pj < Ij,
= 0 otherwise

$D_{2j}$ = 1 if j is a classic ideal point attribute and Ej is interpreted as the classic ideal point (i.e, Ej = Ij) and Pj > Ij
= 0 otherwise

$D_{3j}$ = if j is a classic ideal point attribute and Ej is interpreted as the feasible ideal point (i.e. Ej < Ij) and Pj > Ij
= 0 otherwise

Operationalizing this specification, one should ascertain whether customers view each service feature as a vector or classic ideal point attribute.

The (P-E) specification is meaningful if the service feature being assessed is a vector attribute – that is, one on which customer's ideal point is at an infinite level. With vector attributes, higher performance is always better so for vector attribute there is a positive monotonic relationship between perception and service quality for a given level of the expectation norm, E, regardless of how expectation is interpreted. This relationship is consistent with the SERVQUAL formulation of

service quality. PZB, 1994 noted that Teas findings pertaining to non extreme ratings on his Ij scale raise questions about the soundness of the classic ideal point attribute assumption. 13% of the total 1200 obtained an ideal point (I) scale.

## 3. Dimensionality

The SERVQUAL scale is based on a multidimensional definition of the construct. PZB (1985) original 10 dimensional formulation was later reduced as a consequence of analytical considerations [4]. The final outcome consists of a measure that defines service quality as a second order construct with 5 interrelated dimensions. A higher level of abstraction implies a wider range of application to develop and test models across industries. High order abstraction of quality can be generalized across brands and product classes [4]. Cronin and Taylor's primary concerns were that the SERVQUAL instrument's dimensionality is problematic. Babakus and Boller (1992), examined the issue of dimensionality as well as the stability of underlying dimensions (i.e. first–order versus second–order construct, and factor structure). Although there is a consensus that service quality is a second order construct, serious questions can be raised regarding the dimensionality of service quality (i.e. whether it is a second - order construct with 2, 3, 5, or 10 distinct dimension).

Gronroos (1984) conceptualized service quality with 2 distinct components (i.e, technical and functional quality). Hedvall and Paltschik (1989), conceptualization with 2 – dimensions referred to as "willingness and ability to serve" and "physical and psychological access". Lihtinen and Lehtinen ( 1982) defined service quality as a 3 dimensional construct consisting of interactive, physical and corporate quality dimension. Babakus

and Boller (1992) stated that "the definition and measurement of service quality as a 5- dimensional construct, as in SERVQUAL, appears to suffer from a number of methodological shortcomings." They concluded from their study that by ignoring the effects of item wording, SERVQUAL proved to be essentially unidimensional [4]. Hence, the possibility exists that consumers may form an overall unidimensional abstraction of quality for utility services. Moreover, Babakus and Mangold (1989) suggest that the SERVQUAL items represent only one factor rather than five [7]. Cronin and Taylor (1992) conclude from their oblique factor analyses that they are correct to reiterate their influence that the 22 SERVQUAL items are unidimensional. This inference was made due to the fact that all of the items loaded predictably on a single factor with the exception of item 19 (25).

Carman (1990) suggests that more dimensions than the five currently found in SERVQUAL are needed, that the item factor relationship in SERVQUAL are unstable, and that the measurement of expectations is a problem [7]. Carman (1990) indicated the possibility of 5 to 9 distinct dimensions of service quality depending on the type of service sector under investigation [4]. The findings suggest that the dimensionality of service quality depends on the type of the service under study [4].

PZB (1991) reassessed its dimensionality and arrived at the following conclusion: "Though the SERVQUAL dimensions represent five conceptually distinct facets of service quality, they are also interrelated, as evidenced by the need for oblique rotations of factor solutions in the various studies to obtain the most interpretable factor patterns. PZB (1994) indicated that previous work that SERVQUAL consists of 5 distinct dimensions, but they pointed out that the factors representing those dimensions are interrelated and hence overlap to some degree. PZB (1988) report

average interfactor correlations of 0.23 to 0.35. PZB (1994) responded to Cronin and Taylor's inference that the percentage of variance in the 22 items captured by the one factor for which results are reported is less than 50%, the cutoff value recommended by referring to Bogozi and Yi (1988) for indicators of latent constructs to be considered adequate. The variance captured for the SERVQUAL items is much lower than for the SERVREF items (mean of 32.4% for SERVQUAL versus 42.6% for SERPERF) [25]. The results strongly suggest that an unidimensional factor is not sufficient to represent fully the information generated by the 22 items, especially in case of SERVQUAL, for which over 2/3 of the variance in the items is unexplained if just one factor is used [25]. PBZ (1991) proposed to give customers definitions of the 5 dimensions and ask them to sort the SERVQUAL times into the dimensions only on the basis of each item content. The proportions of customers "correctly" sorting the items into the 5 dimensions would reflect the degree to which the dimensions are distinct [25].

## 1. Generic items

PZB (1985) thought that while some perceptions about service quality were specific to the industries selected, commonalties among the industries prevailed. The commonalties are encouraging for they suggest that a general model of service quality can be developed [23]. Despite its popularity, several analysts have suggest that the measure has serious shortcomings that limit its usefulness. Research by Carman (1990) indicated that SERVQUAL dimensions are not "generic" as suggested by PZB 1988. Carman (1990) argues that SERVQUAL needs to be customized to the service in question in spite of the fact it was originally designed to provide a generic measure that could be applied to any service. The

replication study of Carman (1990) of the PZB analysis found most of the dimensions they recommend. However, that these dimensions are not generic and that users of these scales should not add items on new factors they believe are important in the quality equation [9].

Babakus (1992), an initial assessment of items content by management and a small group of customers showed that scale was appropriate for utility services. But his results suggest that the dimensionality of the construct may be a function of the type of services under investigation. Babakus (1992) study supports Carman's (1990) findings in that the number of service quality dimensions may be a function of the particular service industry. Babakus concluded that the domain of service quality may be factorially complex in some industries and very simple and unidimensional in others. Therefore, it may not be fruitable to pursue the development of a standard measurement scale applicable to a wide variety of services.

Brown, Churchill and Peter (1993) stated that proves a scale to measure service quality can be universally applicable across industries. In attempting to modify the wording of the SERVQUAL items to fit the alternative conceptualization, they were stuck by the omission of items they a priori thought would be critical to subjects' evaluation of the quality of service they receive from a bank (e.g. the convenience of the bank's location or its operating hours) [7]. PBZ (1993) responded that SERVQUAL suffers from the omission of critical items such as "convenience of the bank's location or its operating hours" is inaccurate. SERVQUAL does have an item focussing on the convenience of operating hours (PBZ (1991) item 19) [22].

PZB (1991) argued that the SERVQUAL items represent core evaluation criteria that transcend specific companies and industries. The SERVQUAL items are the basic "skeleton" underlying service quality that can be supplemented with context-specific items when necessary [22]. PZB indicated that particular attention was given to the applicability of the scale items to a wide range of services. In each new setting it was necessary to add and modify items in order to adapt PZB scales to the particular setting under study. When one of the dimensions of quality is particularly important to customers, they are likely to break that dimension into subdimensions. Clearly, the wording and subject of some individual items need to be customized to each service setting [9].

## 5. Psychometric issues

BCP (1993) found that the calculations of a difference score in the SERVQUAL measure can lead to several psychometric problems. The three psychometric problems associated with the use of the difference scores to measure service quality include: reliability, discriminate validity and variance restriction problems:

1) **Reliability:** Difference score measure often demonstrates poor reliability, primarily because any positive correlation between the component scores attenuates the reliability of the resulting difference score. As the reliability of either component score decreases or the correlation between the component scores increases, the reliability of the difference score itself decreases [7]. BCP concluded that although SERVQUAL had high reliability, it was below that of a non-difference score measure of service quality. The use of scales are designed to capture the perceived difference

directly rather than measure each component and calculating the difference.

2) **Discriminant validity**: BCP discuss two potential problems pertaining to the discriminant validity of difference-score measures. The first problem is that a difference score measure's discriminate validity may be inflated if the measure has low reliability but the reliability of the SERVQUAL has been shown consistently high (e.g., 0.87 to 0.92 in PZB 1988, and 0.94 in BCP 1993). The second problem in BCP's view is that a difference - score measure would necessarily lack discriminate validity because it will be correlated with its 2 components. Although it is true that any difference score measure is likely to be correlated with its components, PBZ (1993) disagreed with the inference that such correlation demonstrates lack of discriminant validity, especially for the difference-score formulation of SERVQUAL. PZB did not imply that service quality is theoretically unrelated to expectations and perceptions. PZB (1985) stated that service quality is a function of the discrepancy between customers' expectations and perceptions, implying that the former construct is necessarily related to the latter two, thus inferring poor discriminant validity for the difference-score formulation of SERVQUAL on the basis of its correlation with its components is inconsistent with the definition of discriminant validity and hence inappropriate.

3) **Variance restriction:** This occurs when one of the component scores used to calculate the difference score is consistently higher than the other component. With SERVQUAL, the expected or desired level of service is almost always higher than the perceived level of actual service. Respondents who perceive service to be poor (and

circle 1 in response to perception item) have a potential range on the difference score of 0 (if E is 1) to -6 (if E = 7). Respondents who perceive service to be good (and circle 6 in response to perception item) have a much more constrained potential range on the SERVQUAL score for that pair of items (0 to -1). This restriction of range for respondents who evaluate the service highly results in smaller variance in SERVQUAL scores for those individuals than for those less satisfied with it. This creates a problem in many types of statistical analysis that require equality of variance [7]. PBZ (1993) stated the relevance and seriousness of this potential problem depend on how the difference scores are used. Even when SERVQUAL scores are used in multivariate applications such as regression analysis, the variance restriction problem is likely to be serious only if the difference score measure is the dependent variable [22]. BCP (1993) suggest techniques as generalized least-squares regression and variable transformation can be used to overcome this problem when it occurs. PBZ (1993) argued that the alleged Psychometric deficiencies of the difference-score formulation are not as severe as BCP suggest, and that the richer diagnostics of SERVQUAL may more than justify the separate measurement of perceptions and expectations.

## 3.10 The Instrument – SERVQUAL

### 3.10.1 Developing SERVQUAL

The 22 – item instrument (called SERVQUAL) for assessing customer perceptions of service quality in the service has been developed following generally recommended psychometric procedures (PZB 1988). The development led to a final measure

with 22 pairs of items designed to capture 5 dimensions of service quality including tangibles, reliability, responsiveness, assurance, and empathy.

The 10 dimensions of service quality and their descriptions served as the basic structure of the service quality domain from which items were derived for the SERVQUAL scale. Items representing various facets of 10 service quality dimensions were generated to form the initial item pool for the SERVQUAL instrument. This process resulted in the generation of 97 items (approximately 10 items per dimension). Each item was recast into 2 statements – one to measure expectations about firms in general within the category being investigated and the other to measure perceptions about the particular firm whose service quality was being assessed. Roughly half of the statement pairs worded positively and the rest were worded negatively. A seven – point scale ranging from "Strongly Agree" (7) to "Strongly Disagree" (1), with no verbal labels for scale points 2 through 6 accompanied (scale values were reversed for negatively worded statements prior to data analysis).

The 97 – item instrument was subjected to two stages of data collection and refinement. The first stage focused on condensing the instrument by retaining only those items capable of discriminating well across respondents having differing quality perceptions about firms in several categories, and examining the dimensionality of the scale and establishing the reliabilities of its components. The second stage was primarily confirmatory in nature and involved re-evaluating the condensed scale's dimensionality and reliability by analyzing data from four independent samples.

Data for initial refinement of the 97 – item instrument was gathered from a quota of 200 respondents. The sample size of 200 was chosen because other scale developers in the marketing area had used similar sample sizes to purify initial instruments containing about the same number of items as the 97 – item instrument (e.g. Churchill, Ford and Walker 1974, Saxe and Weity 1982) (24).

The respondents were spread across five different categories: appliance repair and maintenance, retail banking, long distance telephone, securities brokerage, and credit cards. These categories were chosen to represent a broad cross – section of services that varied a long key dimensions used by Lovelock (1980, 1983) to classify services. To qualify for the study , respondents had to have used the service in question during the previous three months. The 97 – items instrument was refined by analyzing pooled data (i.e data from all five categories considered together.

Purification of the instrument began with the computation of coefficient alpha (Cornerback 1951). Coefficient alpha was computed separately for the 10 dimensions to a secretion the extent to which items making up each dimension shared a common core. The values of coefficient alpha ranged from 0.55 to 0.78 across the 10 dimensions and suggested that deletion of certain items from each dimension would improve the alpha values. The criterion used in deciding whether to delete an item was the item's corrected item – to – total correlation (i.e. correlation between the score on the item and the sum of scores on all other items making up the dimension to which the item was assigned). The corrected item – to – total were plotted in descending order for each dimension. Items with very low correlations or those whose correlations produced a sharp drop in the plotted pattern were discarded.

Recomputation of alpha values for the reduced sets of statements and examinations of the new corrected item – to total correlations led to further deletion of items whose elimination improved the corresponding alpha values. The iterative sequence of computing alphas and item – to – total correlations, followed by deletion of items , was repeated several times and resulted in a set of 54 items , with alpha values ranging from 0.72 to 0.83 across the 10 dimensions.

Examining the dimensionality of the 54–item scale was the next task in this stage of scale pacification and was accomplished by factor analyzing the difference scores on the 54 items. Moreover, some degree of overlap among the 10 conceptual dimensions was anticipated by the researchers who initially identified and labeled the dimensions ( PZB , 1985 ). Therefore the 10 – factor solution was subjected to oblique rotation to allow for interrelations among the dimensions and to facilitate easy interpretation.

When several items were removed from the factor leading Matrix , several factors themselves became meaningless , because they had near – zero correlations with the remaining items , thereby suggesting a reduction in the presumed dimensionality of the service quality domain. Furthermore, the highest loadings of a few of the remaining items were on factors to which they were not originally assigned. In other words, the factor loadings suggested reassignment of some items.

The deletion of certain items (and the resultant reduction in the total number of factors or clusters of items) and the reassignment of certain others necessitated the recomputation of alphas and item –to-total correlations and reexamination of the factor structure of the reduced item pool. The iterative sequence of analyses was

repeated a few times and resulted in a final pool of 34 items representing seven distinct dimensions.

Five of the original 10 dimensions – tangibles, reliability, responsiveness, understanding/knowing customers, and access – remained distinct. The remaining 5 dimensions – communications, credibility, security, competence and courtesy – collapsed into 2 distinct dimensions (D4 & D5) each consisting of items from several of the original 5 dimensions. Moreover, the combined reliability for the 34 – item scale, computed by using the formula for the reliability of linear combinations (Nunnally 1978), was quite high (0.94). Therefore the 34 – item instrument was considered to be ready for further testing with data from new samples.

To further evaluate the 34 – item scale and its psychometric properties, data were collected pertaining to the service quality of four national firms. A major objective of this stage was to evaluate the robustness of the 34-item scale when used to measure the service quality of the four firms. Therefore the data from each of the four samples were analyzed separately to obtain alpha values (along with corrected item – to – total correlations) and a factor – loading matrix following oblique rotation of a 7 – factor solution.

The results from each sample facilitated cross validation of the results from the other samples. The results of the 4 sets of analyses were quite consistent with two differences:

1. The corrected item – to – total correlations for several items and alphas for the corresponding dimensions were lower than those obtained from the first stage.

2. The factor – loading matrices obtained from all four analyses showed much greater overlap between dimensions D4 and D5, and between dimensions D6 and D7. Because these differences occurred consistently across four independent samples and data sets, further purification of the 34 – item scale was deemed necessary.

A few items with relatively low item – to – total correlations were deleted. Furthermore, as suggested by the factor analyses, the items remaining in D4 and D5, as well as those in D6 and D7, were combined to form two separate dimensions. For each sample, alpha values were recomputed for the reduced set of five dimensions and a factor analysis (involving extraction of 5 factors followed by oblique rotation) was performed.

In examining the results of these analyses, an iterative sequence similar to the one made earlier was followed. This procedure resulted in a refined scale ("SERVQUA") with 22 items spread among five dimensions ( D1, D2, D3, a combination of D4 and D5, and a combination of D6 and D7 ) .

It is worth noting that the iterative procedure used to refine the initial instrument was guided by empirical criteria and by the goal of obtaining a concise scale whose items would be meaningful to a variety of service firms. The reliabilities and factor structures indicate that the final 22 – item scale and its five dimensions have sound and stable psychometric properties. Moreover, by design, the iterative procedure retained only those items that are common and relevant to all service firms. The testing of the reliability and validity of the scale with the data from 4 service firms in different industries was very thorough.

"The instrument has been designed to be applicable across a broad spectrum of services. As such, it provides a basic skeleton through its Expectations / Perceptions format encompassing statements for each of the five service quality dimensions. The skeleton, when necessary, can be adapted or supplemented to fit the characteristics of specific research needs of a particular organization" ( PZB 1988 ) .

### 3.10.2 Refinement of SERVQUAL

The original version of SERVQUAL (PZB 1988) consists of two sections: a 22 items section to measure customers' service expectations and a corresponding 22 item section to measure customers' perceptions of particular company in that sector. The original version of SERVQUAL was pretested through a sample of 300 customers of the telephone company. Due to high overall mean values (6.22 on scale of 7 point) which were not totally unanticipated because the items were intended to measure customers' normative expectations. Recognizing that the "should" terminology in this and other expectation statements may be contributing to unrealistically high expectations scores, a slightly different wording was adopted. The revised wording focused on what customers would expect from companies delivering excellent service. The perceptions section of SERVQUAL remained unchanged except for minor wording changes in several items to make them parallel to the revised expectations items.

On the 22 SERVQUAL items included in the pretest questionnaire, 16 items were worded positively and 6 were worded negatively. The pretest results indicated that the negatively worded items may be problematic for several reasons:-

1. The standard deviations for the negatively worded expectations items were consistently higher (mean standard

deviation of 2.07) than for positively worded expectations items (mean standard deviation of 0.77). The wider variation for the negatively worded items implied that respondents may have been confused by those items.

2. The reliability coefficients ( Cronbach's alphas ) , reported were consistently lower than in the original SERVQUAL study (PZB 1988) for responsiveness and empathy – the 2 dimensions that included all the negatively worded items. For these reasons, negatively worded items were all changed to a positive format in the final questionnaire.

Two new items – one each under tangibles and assurance – were substituted for 2 original items to capture more fully the dimensions and to incorporate suggestions from managers who reviewed the pretest questionnaire. Minor wording adjustments were made in a few items to incorporate feedback from company managers and to clarify items.

In the original study, estimates of the importance of the 5 SERVQUAL dimensions were derived indirectly in the form of regression weights. In the revised study, the relative importance of the 5 dimensions was obtained by asking customers to allocate a total of 100 points across the dimensions according to how important they considered each to be.

The modified SERVQUAL scale (PZB 1991) is similar to the original SERVQUAL scale except for the substitution of two new items, the change in orientation from the level of service that should be provided to the level that would be provided and the transformation of all negatively worded items into positively worded statements. PZB(1991) recommend these changes because in their original study (1988) , the negatively worded items loaded separately from the positively worded items, forming two of the

five dimensions. Moreover, the expectation scores were unrealistically high when respondents were asked to indicate the level of service that should be provided.

### 3.10.3 Applications of "SERVQUAL"

One of the most popular measures of service quality is SERVQUAL developed and later refined by Parasurman, Zeithamel, and Berry (1988, 1991). SERVQUAL and general approach to measure service quality as an E/P gap is becoming widely used by researchers [4].

The SERVQUAL has been used to assess customer perceptions of service quality. Its purpose is to serve as a diagnostic methodology for uncovering broad areas of a company's service quality shortfalls and strengths. In effect, a company that does not respond effectively to customer complaints compounds the failure, and the customer's shaky confidence in the firm probably collapses. Many dissatisfied customers do not complain, often making unflattering comments about the firm and taking their business elsewhere instead. Research on customer complaining behavior documents that large numbers of customers do not complain because they fear a hassle, perceive no easy or efficient way to air their grievances, or believe complaining will not do them any good [5]. Negative word of mouth occurs when customers cannot resolve problems with the firm or do not even try. The instrument has been designed to be applicable across a broad spectrum of services. As such, it provides a basic skeleton through its expectations / perceptions format encompassing statements for each of the five service quality dimensions. SERVQUAL is most valuable when it is used periodically to track service quality trends. It can help a wide range of service

organizations in assessing consumer expectations about the perceptions of service quality. It can also help in pinpointing areas requiring managerial attention and action to improve service quality.

SERVQUAL contains 22 pairs of Likert type items. One half of these items are intended to measure consumers' expected levels of service for a particular service industry (expectations). The other 22 matching items are intended to measure the perceived level of service provided by a particular organization (perceptions). The two components of SERVQUAL (i.e, expectations and perceptions) are designed to measure consumer "desired level" of service from a sector and the "existing level" of service from a particular provider. Service quality is measured by calculating the difference scores between corresponding items (i.e, perceptions – expectations).

# CHAPTER # 4

# RESEARCH DESIGN

## 4.1 Data Collection

Three surveys have been conducted for this project: one amongst SCECO-East's customers, one amongst the supervisors in the company, and the third amongst the contact personnel (front line staff).

The customer survey participants were selected at random. Generally, the questionnaire was distributed to those customers who approached SCECO-East branches offices in DOA.

The front-line staff survey was given to each unit head that had direct contact with the customers in order to distribute them among his employees at random.

The principals and the supervisory staff were selected at random and the questionnaires were sent by mail. A cover letter, asking supervisors feedback about the quality, was attached to each questionnaire.

In all three surveys, clients were asked to complete the questionnaire statements related to their expectations of SCECO-East services. Also, principals and front-line staff were requested to fill the same set of statements about client expectations. Respondents were asked to provide the level of service expected from an electrical service and their evaluations of the actual level of service provided by SCECO-East on a set of 21 items.

Unlike the PZB (1988) methodology of administering a two part questionnaire with separate expectation and perceptions sections, where the expectation statements were grouped together and formed the first half of the instrument and corresponding perception statements formed the second half, the present study elicited consumer expectations for an excellent electrical firm and SCECO-East with only one list of statements and two portions of measurement. For each statement, respondents were instructed to indicate the level of service that should be offered by an excellent electrical firm and express their perceptions about SCECO-East. The potentially lengthy and confusing impact of having one set of instructions referring to an industry and another set to a particular firm was eliminated by this simpler format [4]. Agreement with each item is assessed on a seven points scale similar to what was used in the original survey by PZB to give rsepondents a wider range of options with end anchors "strongly disagree" and" strongly agree" and no verbal descriptors for intervening scale positions.

The study tested the service quality of three service types (new, reinforcement, splitting), three different load types (residential, commercial and industrial) and the three load categories(less than 400 amps, between 401 to 5000 amps and more than 5000 amps) . Subjects were assigned randomly to one of 27 categories.

## 4.2 Sampling

The questionnaire survey was carried out over SCECO-East customers and staff. The total population of SCECO-East customers is around 485,000, approximately 50% of whom are located in DOA which includes Dhahran , Dammam , Khobar , and Qatif and its villages (Total DOA Customers is 225,000). The

sample was selected from DOA customers for the following reasons:

- DOA accounts for half of all the company's customers.
- DOA is relatively small compared to the other two areas. HOA & NOA areas are very large with scattered customers.
- Most VIP customers are in DOA.
- The data gathering in DOA would be more controlled.
- TQM program started first in DOA in 1994, while the other areas started later.

The total population of SCECO-East staff is around 6,800 approximately 1000 of whom are employed by DOA.

Data were obtained through three random samples. For the customer survey, a total of 500 questionnaires were distributed to all three districts. The returned questionnaires were carefully examined for completeness and for obvious "yea" or "nay" saying tendencies. The total number of usable responses resulting from this process was 126 (25.2%).

For the frontline staff survey, a sample size of 200 was chosen. A total of 117 (59 %) completed questionnaires were collected for the current research. For supervisory staff, a random sample of 20 principals and supervisors that have contacts with customers was selected. A questionnaire and cover letter were mailed to these supervisors. Of the original 20 questionnaires, 12 (60 %) were returned and usable.

## 4.3 Questionnaire

In order to measure the quality dimensions and therefore the gaps in perceptions, a survey instrument known as SERVQUAL was utilized. The statement items of the survey were related to each of the five quality dimensions i.e. for each service feature (quality determinant), at least four statements were included in the questionnaire to cover these features from all aspects.

The questionnaire was of three types: client, supervisor and employee surveys. The clients were asked to indicate how they expected and perceived the SCECO-East services by answering the questionnaire related statements of service quality. In addition, supervisory staff and front line employees of SCECO-East filled out the same set of statements about client expectations.

While SERVQUAL can be used in its present form to assess and compare service quality across a wide variety of firms, appropriate adoptions of the instrument may be desirable when only a single service is investigated [24]. This alternative approach would require appropriate wording changes in SERVQUAL' directions and items, although the item content would be the same [30].

Items of SERVQUAL were reviewed thoroughly by representatives of customer relation and engineering units, and slight modifications were adopted. Specifically, items under each of the five dimensions were suitably reworded in order to be more suitable for SCECO-East. Then, the questionnaire was evaluated by a small group of current customers (a convenience sample of 25 customers). Based on the results obtained, extensive reviews and discussions were also conducted with members of customer

relation management as well as a number of technical personnel. The feedback from all parties was adopted in the instrument and distributed in this final shape.

The approach was to ask customers to indicate on different rating scales where they would place a high quality service company and where they would place SCECO-East Company. The relative importance of the five dimensions were designed by asking the customers to allocate a total of 100 points across the dimensions according to how important they considered each to be. This points allocation question listed descriptive definitions of the five dimensions without naming them.

The customer questionnaire contained three sections(parts). The first section listed 21 statements capturing the essence of what the literature suggests are expectations and perceptions of customers of service. In this section, respondents were asked to indicate on a scale of 1 (strongly disagree) to 7 (strongly agree) the extent to which they felt each item was necessary from an excellent electrical firm and performance of SCECO-East.

The second section listed statements concerning characteristics (features) of electrical firms. Respondents allocated points to show the extent to which each statement was important on a scale from 0 to 100 points.

The third section included items to gather information on problems and complaints with services, satisfaction with problem resolution and overall rating of SCECO-East service quality. The questionnaire also contained several essay questions to address some service quality issues that need to be investigated. The clients were asked to list distinctive competencies of SCECO-East over other service agencies, their concerns about SCECO-East,

most frequently cited of clients greatest sources of dissatisfaction with SCECO-East, and areas in which they experienced problem in the delivery service.

In addition, the survey instrument contained questions pertaining to the demographic characteristics of respondents and types of service received.

## 4.4 Measurement

The five service quality constructs were operationalized. The four constructs: Tangibles, Reliability, Responsiveness and Assurance were operationalized in the current research by four direct measures. Empathy construct was operationalized by five direct measures. The measures employed in the current research were similar to those used by PZB(1988). The responses to the questionnaire statements relating to the service features were measured using a seven - point scale where 7 represented strong agreement and 1 represented strong disagreement.

Expectations and perceptions were measured on a 7-point scale. Gaps were measured by finding the difference between these responses, resulting in a possible range from –6, indicating a massive shortfall, to +6 , indicating a great degree of exceeding expectations.

Five measures were included to affirm importance of service characteristics, three measures to assess complaints and one measure was included to assess overall SCECO-East service quality and as a way of checking discriminant validity.

# CHAPTER # 5

# DATA ANALYSIS

## 5.1 Assessment of Quality

Quality is an attitude, a multidimensional construct composed of differences between perception (P) and expectation (E).

SERVQUAL scores (perceptions minus expectations) can be used to assess a given firm's quality for each service feature. It is needed to measure the expectation level of a customer for a specific feature. The firm's performance can then be judged on the service given to the customer.

$$SQ_i \text{ (feature)} = P_i - E_I \qquad (6)$$

Service quality along each of the five dimensions can be found by averaging the different scores on items making up the dimension:

$$SQ \text{ (dimension)} = \frac{\sum_{i \to 1}^{n} (P_i - E_i)}{n} \qquad (7)$$

where n = number of items in the dimension.

It can also provide an overall measure of service quality in the form of an average score across all five dimensions.

Assessment of service quality by calculating SERVQUAL scores (gap 5) was performed for all the 21 service features, the five dimensions and for the overall measure. These segments could then be analyzed across:

1. The various service categories, namely: service type, load type and load class.

2. The relative importance of the five dimensions in influencing service quality perceptions.

3. The reasons behind the perception reported.

4. The demographics and other profiles.

### 5.1.1 Overall SERVQUAL

Table (1) reports mean, standard deviation, minimum and maximum values for expectation, perception and SERVQUAL scores. The mean item score for the expectations component is 6.25 and for perceptions is 5.59 on a seven point scale. SERVQUAL scores, which can be ranged from –6 to +6 on which zero implies that consumer perceptions and expectations coincide, negative values imply perceptions fall short of expectations and positive values imply perceptions exceed expectations, has a mean of –0.65. The mean of -0.65 for the SERVQUAL measure implies that on average respondents' perceptions fell short of their expectations which is logical if expectations are considered ideal. The average minimum value of SERVQUAL for all customers is –4.76, while the maximum is 2.81. Lower negative gap scores imply high level of perceived service quality, i.e. customer perceptions come closer to matching expectations.

**Table (1): Overall Customer Sample Statistics for Expectations, Perceptions and Service Quality**

| Variable* | N | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| ETOT | 124 | 6.24 | 1.23 | 1.14 | 7.00 |
| PTOT | 124 | 5.59 | 1.32 | 1.48 | 7.00 |
| SQTOT | 124 | -0.65 | 1.09 | -4.76 | 2.81 |

* where ETOT is the overall mean score of customer expectations.
PTOT is the overall mean score of customers perceptions.
SQTOT is the overall mean score of service quality.

### 5.1.2 Features SERVQUAL

For the customer sample as a whole, mean scores on (1 to 7 scale) for expectation, perception and service quality of the 21 proposed features were calculated. Table 2 shows the mean scores for the 21 statements used in the customer survey.

Judging from the average responses for expectations of all customers, two features received extremely high average responses, indicating that most customers felt them to be or of greatest importance in their needs and wants.

Customers rated "feeling safe in their transactions" as the most essential feature required from an excellent electrical company (the mean score 6.46). The second essential feature was "the employees should appear neat". Surprisingly, customers rated "to have employees who give customers personal attention" as the least essential feature (mean score 5.99). The second least important feature was "to have the customers' best interests at heart."

These results of customers' requirements from an excellent electrical company illustrated the way SCECO-East customers form their expectations. Customers have high ratings for all items (more than 5.99) and they are least expecting to have special treatment (i.e. personal attention and having customers' best interest at heart). This may be due to the fact that SCECO-East is a semi-public monopolistic organization, which deals with average customers who do not expect employees to be rewarded for dealing with them in a more polite manner than the average level. However, customers think "feel safe in their transaction and having employees that will be neat appearing" should be provided by any excellent electrical company either a monopoly or a competitive, private or public firm.

Customers perceived "SCECO's physical facilities are visually appealing" as the highest rating (mean score of 6.00 on a scale of 7) and the second highest performance of SCECO-East was "having operating hours convenient to all customers."

SCECO-East invested in their facilities to bring them up to a high standard. The three district offices are new and have comfortable, large, air-conditioned reception areas for customers. Customers compare SCECO-East facilities with those of similar industries (i.e. telephone companies) and so rated SCECO-East with the highest score. In addition, SCECO-East opens from early morning to late afternoon (7.00 AM till 3.30 PM) while no other public service company in Saudi Arabia has these timings.

The lowest rated performance of SCECO-East was "giving customer individual attention" with a mean score of 5.23. The second lowest customer perception of SCECO performance was "to have the customers' best interest at heart" with a mean of 5.32.

Obviously, these low ratings were due to the nature of the organization and employees in a public monopoly firm.

Service quality, which is found by subtracting expectation from perception (P-E), is favorable when it is more positive (least negative). As Table 2 shows, the highest score for SCECO-East service quality was the "physical facilities" and again, the second highest SQ score was the feature that SCECO has convenient operating hours. These highest scores in SQ is similar to that of perception scores. One reason explaining these similarities is that E scores are approximately similar among the 21 features with slight differences, so what differentiates is the perception scores.

The least SCECO-East perceived service quality was with the attribute "give customers individual attention" (mean score of – 0.95) and this tallies with customer perception and the reason was well explained. The second least perceived quality was "to have employees knowledgeable to answer customer questions." The main source of low SQ score is that the customers expectation to have knowledgeable employees to answer their questions was reasonably high (mean 6.40) but the frontline staff who receive customers are usually non-technical employees and are unable to answer customers technical questions and need to refer the customer requests to the engineering unit, which means customers need to wait for SCECO responses of their questions.

**Table 2: Mean Scores of Expectation, Perception and Service Quality for the 21 Features**

| S.No. | Description | MEAN | | |
|---|---|---|---|---|
| | | E | P | SQ |
| 1 | Modern Equipment | 6.23 | 5.73 | -0.50 |
| 2 | Physical facilities | 6.25 | 6.00 | -0.25 |
| 3 | Neat-appearance | 6.42 | 5.90 | -0.52 |
| 4 | Visually appealing materials | 6.15 | 5.58 | -0.58 |
| 5 | Sincere in solving problems | 6.24 | 5.58 | -0.66 |
| 6 | Perform right the first time | 6.18 | 5.41 | -0.77 |
| 7 | Provide at they promise to do so | 6.13 | 5.34 | -0.79 |
| 8 | Keep error-free records | 6.22 | 5.63 | -0.59 |
| 9 | Tell exactly when perform | 6.18 | 5.49 | -0.69 |
| 10 | Provide prompt service | 6.28 | 5.41 | -0.87 |
| 11 | Willing to help | 6.34 | 5.76 | -0.58 |
| 12 | Never too busy to respond | 6.34 | 5.60 | -0.74 |
| 13 | Instill confidence in customers | 6.22 | 5.56 | -0.66 |
| 14 | Make customers feel safe | 6.46 | 5.90 | -0.55 |
| 15 | Courteous with customers | 6.41 | 5.80 | -0.61 |
| 16 | Have knowledge to answer customers questions | 6.40 | 5.51 | -0.88 |
| 17 | Give customers individual Attention | 6.18 | 5.23 | -0.95 |
| 18 | Have convenient operating hours | 6.28 | 5.96 | -0.32 |
| 19 | Employees give customers personal attention | 5.99 | 5.51 | -0.48 |
| 20 | Have the customers' best interest at heart | 6.06 | 5.32 | -0.74 |
| 21 | Understand specific needs of customers | 6.24 | 5.42 | -0.82 |

### 5.1.3 Dimensions SERVQUAL

As shown in Table 3, the SERVQUAL scores for SCECO-East consistently exhibit greater variation across dimensions than the perceptions only score. The perception ratings suggest placing equal emphasis on improving reliability and empathy when, in fact, the company has a bigger problem with reliability as the SERVQUAL scores reveal. Another caution point is that SCECO-East should take care to focus more attention on improving empathy rather than on enhancing responsiveness, if it relied solely on the perception scores. Clearly, this would be a major mistake as indicated by SERVQUAL scores for responsiveness and empathy.

SCECO-East performance in tangibles was rated the highest among the five service dimensions with the best SQ score (mean of –0.47). The least SERVQUAL score was with responsiveness (mean of –0.72). SCECO-East should put effort into enhancing their employees so that they are able to provide prompt service and are more willing to help customers.

**Table 3: Mean Scores of Expectation, Perception and Service Quality for the Five Dimensions**

| Dimension | E | P | SQ |
|---|---|---|---|
| Tangibles | 6.26 | 5.80 | -0.47 |
| Reliability | 6.19 | 5.49 | -0.70 |
| Responsiveness | 6.29 | 5.57 | -0.72 |
| Assurance | 6.37 | 5.70 | -0.68 |
| Empathy | 6.15 | 5.49 | -0.66 |

### 5.1.4 Overall SERVQUAL Across Service Categories

In addition, mean scores across each of service type (new, reinforcement, splitting), load type (residential, commercial and industrial) and load classification (less than 400A, more than 400A and less than 5000A, more than 5000A) were examined.

Table 4 reports the means of respondents expectations and perceptions of SCECO-East performance and service quality among different service categories. Judging from the average responses of all customers, the expectation score was 6.25 and the SCECO-East performance was slightly less than customers' expectations with a score of 5.59 resulting in SQ score of –0.65.

Considering the service types, reinforcement service correspond with least SCECO-East performance and least quality (mean score –1.08). New supply service which is a regular to many customers achieved the highest rating of SQ and least with regard to customer expectations of service features. Similarly, commercial customers rated SQ least (mean score of features –0.83) and industrial and residential customers rated SQ of service features highest (mean score of –0.53 and –0.55 respectively).

Customers of low load class (less than 400 ampere) perceived SCECO performance with least scores among the other load classes, making service quality the worst (mean of –0.81). Customers of load class between 400 and 5000 amperes (which are the second largest load class) rated SCECO performance the highest among all load classes (mean 5.79) but, due to highest expectations ratings of this class (mean of 6.33), the result was a service quality of –0.53 (SQ of industrial customers was –0.48 and E = 6.06).

## Table (4): Differences in Perception, Expectation and Service Quality Among Service Categories

| Vari-able | All Sam-ples | SERVICE TYPE | | | | LOAD TYPE | | | | LOAD CLASS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | New | Reinf. | Split | ? | Res | Com | Ind | ? | <400 | S/S | > 5000 | ? |
| E | 6.25 | 6.21 | 6.46 | 6.91 | 5.97 | 6.14 | 6.56 | 6.53 | 5.97 | 6.30 | 6.33 | 6.06 | 6.1 |
| P | 5.59 | 5.59 | 5.37 | 6.08 | 5.12 | 5.59 | 5.73 | 5.99 | 5.16 | 5.49 | 5.79 | 5.58 | 5.54 |
| SQ Unwe-ighted | -0.65 | -.51 | -1.08 | -.83 | -.85 | -.55 | -.83 | -.53 | -.80 | -.81 | -.53 | -.48 | -.55 |
| SQ Weig-hted | -0.66 | -.51 | -1.12 | -.92 | -.86 | -.55 | -.85 | -.54 | -.83 | -.80 | -.57 | -.51 | -.56 |
| Sam-ple Size | 124 | 84 | 18 | 6 | 16 | 68 | 31 | 8 | 17 | 53 | 33 | 5 | 83 |

### 5.1.5 Dimensions' SERVQUAL Across Service Categories

Dimensions of service differ across the service types/categories provided by SCECO-East. Table (5) shows average score for expectation, perception and service quality among the three service types, namely, new supply, reinforcement of existing supply and splitting the existing supply to more kilo-watt hour meters.

The highest shortfall of service quality (-1.26) occurred in the responsiveness dimension for reinforcement applications. The second highest unfavorable SQ score was (-1.21) in reliability, and for reinforcement applications.

The most favorable SERVQUAL scores occurred, in general, in new applications with slight differences among the five dimensions. The most favorable was (-0.26) for tangible features. Reliability and responsiveness dimensions received the least favorable SERVQUAL scores among the five dimensions for all service types.

Expectations scores showed that the new customers have the least expectation across all service dimensions. The lowest expectation was (6.09) in empathy and (6.18) in reliability as these customers have no prior experience with such types of service. The highest expectations scores were in assurance and then in reliability in splitting applications.

**Table (5): Mean Scores of E, P, SQ Per Dimension for Different Service Types**

| DIMEN-SIONS | E | | | | P | | | | SQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | R | S | ? | N | R | S | ? | N | R | S | ? |
| **Tangibles** | 6.24 | 6.33 | 6.79 | 6.09 | 5.09 | 5.32 | 6.33 | 5.17 | -0.26 | -1.01 | -0.46 | -0.92 |
| **Reliability** | 6.18 | 6.32 | 6.96 | 5.80 | 5.66 | 5.11 | 5.88 | 4.84 | -0.52 | -1.21 | -1.08 | -0.95 |
| **Responsive-ness** | 6.24 | 6.51 | 6.92 | 6.05 | 5.67 | 5.25 | 5.88 | 5.23 | -0.57 | -1.26 | -1.04 | -0.81 |
| **Assurance** | 6.32 | 6.62 | 7.00 | 6.16 | 5.76 | 5.64 | 6.04 | 5.25 | -0.55 | -0.99 | -0..96 | -0.90 |
| **Empathy** | 6.09 | 6.50 | 6.90 | 5.80 | 5.50 | 5.52 | 6.23 | 5.11 | -0.59 | -0.98 | -0.67 | -0.68 |
| **Sample Size** | 85 | 18 | 6 | 16 | 85 | 18 | 6 | 16 | 86 | 18 | 6 | 16 |

Regarding load types: residential, commercial and industrial customers, the least favorable SERVQUAL scores were rated by commercial customers. A mean score (-0.97) was rated by commercial customers for assurance dimension, the second worst rated by them was also for responsiveness (-0.95).

Tangibles received the best SQ scores for all customer load types. Industrial customers rated tangibles (-0.25), which is the most favorable SQ scores among all load types and dimensions. The second highest score was rated by residential customers, with a mean score of (-0.36).

Responsiveness received the worst SQ scores across all load types, followed by reliability, as is clearly shown in Table 6.

**Table (6): Mean Scores of E, P, SQ Per Dimension for Different Load Types**

| DIMEN-SIONS | E | | | | P | | | | SQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | C | I | ? | R | C | I | ? | R | C | I | ? |
| **Tangibles** | 6.21 | 6.41 | 6.47 | 6.09 | 5.85 | 5.94 | 6.22 | 5.10 | -0.36 | -0.47 | -0.25 | -0.98 |
| **Reliability** | 6.11 | 6.54 | 6.37 | 5.81 | 5.50 | 5.68 | 5.87 | 4.90 | -0.60 | -0.85 | -0.50 | -0.91 |
| **Responsive-ness** | 6.21 | 6.56 | 6.62 | 5.97 | 5.60 | 5.60 | 5.97 | 5.18 | -0.61 | -0.95 | -0.66 | -0.79 |
| **Assurance** | 6.25 | 6.74 | 6.56 | 6.13 | 5.71 | 5.77 | 6.09 | 5.32 | -0.54 | -0.97 | -0.47 | -0.81 |
| **Empathy** | 6.00 | 6.55 | 6.60 | 5.86 | 5.43 | 5.64 | 5.85 | 5.29 | -0.56 | -0.91 | -0.75 | -0.56 |
| **Sample Size** | 69 | 31 | 8 | 17 | 69 | 31 | 8 | 17 | 69 | 31 | 8 | 17 |

Expectations of residential customers were lower than the others. The highest scores of expectations were reported by commercial and industrial customers with the highest mean expectation score of (6.74) in assurance by commercials, followed by the expectation in responsiveness by industrial customers (6.62).

Expectations, perceptions and service quality scores for each service dimension across the three load classes were:

1. Low load class: Less than 400 Amperes
2. Substation load class: More than 400 but less than 5000 amperes
3. High load class: More than 5000 amperes

as shown in Table 7.

The worst SQ score was reported by low load class with highest score of (-0.86) in responsiveness and then (-0.85) in empathy. However, the most favorable SQ scores across the five dimensions were reported by customers of substation load class.

Tangibles dimension received the most favorable SQ scores across all load classes with a best value of (+0.2) rated by high load class customers, which is followed by substation load class customers (-0.32).

The expectations pattern shows that expectations of substation load class were higher than the other classes across the service dimensions. High load customers scored least expectations scores because they have a lot of experience with service and usually they plan in advance. The least expectation score was (5.75) for tangibles and (5.80) for responsiveness and the highest score was

(6.60) for assurance. All least and highest expectation scores were reported by high load class customers.

**Table (7): Mean Scores of E, P, SQ Per Dimension for Different Load Classes**

| DIMEN-SIONS | E | | | | P | | | | SQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | S | h | ? | L | S | h | ? | L | S | h | ? |
| **Tangibles** | 6.40 | 6.24 | 5.75 | 6.14 | 5.80 | 5.92 | 6.95 | 5.64 | -0.60 | -0.32 | +0.20 | -0.50 |
| **Reliability** | 6.29 | 6.23 | 6.25 | 5.98 | 5.47 | 5.66 | 5.65 | 5.33 | -.082 | -0.57 | -0.60 | -0.64 |
| **Responsive-ness** | 6.36 | 6.38 | 5.80 | 6.14 | 5.49 | 5.74 | 5.20 | 5.57 | -0.86 | -0.64 | -0.60 | -0.57 |
| **Assurance** | 6.37 | 6.48 | 6.60 | 6.23 | 5.60 | 5.92 | 6.00 | 5.59 | -0.77 | -0.56 | -0.60 | -0.64 |
| **Empathy** | 6.15 | 6.30 | 5.92 | 6.03 | 5.30 | 5.74 | 5.20 | 5.59 | -0.85 | -0.56 | -0.72 | -0.44 |
| **Sample Size** | 54 | 33 | 5 | 33 | 54 | 33 | 5 | 33 | 54 | 33 | 5 | 33 |

### 5.1.6 Relative Importance of Service Dimensions

ZPB (1990) recommended the use of importance weights merely to compute a weighted average SERVQUAL score (across the five dimensions) as an indicator of the company's overall service quality gap. Moreover, the importance weights that ZPB (1990) used are weights for the dimensions (derived from the customer responses to a 100-point allocation question) not for the individual SERVQUAL items.

Results from the questions asked customers to allocate 100 points across the five SERVQUAL dimensions are shown in Table (8).

Customers rated all the five dimensions as critical. However, the relative importance of the five dimensions in predicting overall quality is that reliability is considered the most critical dimension. Tangibility is the second most important dimension. Empathy is the least important dimension.

SCECO-East customers noted that breaking the service promise is the most important way the service companies fail their customers. Service reliability is part of the core for most customers. The caring and individualized attention SCECO-East provides its customers is considered the least important as this type of service is provided with certain ministerial rules and regulations. It is worth mentioning that since the importance rates were slightly similar across the five dimensions, the effect of weighting values would be minimal.

**Table (8): Relative Importance of Service Dimensions**

| DIMENSION | MEAN POINT OUT OF 100 |
|---|---|
| Tangible | 21 |
| Reliability | 22 |
| Responsiveness | 20 |
| Assurance | 19 |
| Empathy | 17 |

### 5.1.7 Weighted Service Quality

Importance of a particular service attribute is very relevant in an evaluation of overall quality. In the equation form:

$$\text{SQ (weighted)} = \sum_{i=1}^{n} I_i (P_i - E_i) \qquad (8)$$

where, I is the importance of service attribute i.

The equation above shows that all three variables, importance, perception and expectations, are material in evaluating overall quality.

The coefficients of variation for importance of the five service dimensions ranged from 0.17 to 0.22 and had a mean of 0.19. This indicates relatively stable and homogeneous values of importance. The weighted SERVQUAL scores for each respondent was obtained by multiplying the respondent's mean gap score for each dimension by the dimension's relative importance weight and summing the results across the five dimensions.

The weighted overall service quality score is –0.66 compared to an unweighted overall service quality score of –0.65. The slight difference between the two scores is mainly due to slight differences of the importance values for service dimensions as have been rated by customers. SCECO-East customers rated all the five dimensions with nearly equal scores which had only a slight effect on the overall score of service quality.

### 5.1.8 Overall Quality Measure

One question was asked to customers to rate the overall SCECO-East service quality. The overall mean quality score was 5.74, on a 7-point scale where 7 represents excellent and 1 represents poor quality.

No customer in the whole sample has rated SCECO-East quality as poor. The minimum rating for the overall quality was 3, which is nearly in the mid point of the scale.

### 5.1.9 SERVQUAL Across Customer Demographics

The demographic characteristics of respondents are reported in Tables 9 and 10. The least educated customers rated SCECO-East performance the highest among all levels of education with the most favorable SQ score (-0.035). The second highest rating for SCECO-East performance was by the most highly educated customers (university graduates). The lowest SERVQUAL score was rated by customers with secondary level education (mean rate of –0.73).

With respect to age, the respondents of age ranging between 25 and 30 years, rated SCECO-East with the most favorable SQ score (mean of –0.39). However, service quality was rated least by respondents of age between 41 and 50 years. One reason for this is that the expectation for age ranging between 25 and 30 years was the lowest among all age ranges (mean score 5.89) and may be due to low exposure of the young people to such type of services. Their perception of SCECO-East was slightly less than their expectation, making the gap very narrow.

The age range of 41 to 50 years have a higher expectation score (6.16) and their perception of SCECO performance falls short of their expectation (5.32), resulting in the bigger gap (-0.84).

**Table (9): Mean Score of E, P, SQ with respect to Customers' Educational Level**

| EDUCATION LEVELS | E | P | SQ | SAMPLE SIZE |
|---|---|---|---|---|
| Primary | 6.67 | 6.63 | -0.036 | 8 |
| Medium | 5.61 | 5.01 | -0.59 | 9 |
| Secondary | 6.22 | 5.49 | -0.73 | 37 |
| University | 6.18 | 5.72 | -0.46 | 33 |
| Undefined | 6.39 | 5.49 | -0.90 | 37 |

**Table (10): Mean Score of E, P, SQ with respect to Customers' Age**

| AGE RANGE | E | P | SQ | SAMPLE SIZE |
|---|---|---|---|---|
| 25-30 | 5.89 | 5.50 | -0.39 | 26 |
| 31-40 | 6.31 | 5.74 | -0.57 | 40 |
| 41-50 | 6.16 | 5.32 | -0.84 | 15 |
| More than 50 | 6.59 | 6.05 | -0.54 | 6 |
| Undefined | 6.41 | 5.54 | -0.87 | 37 |

With respect to the service dimensions, tangibles and empathy SERVQUAL scores were positive (Table 11), meaning the performance of SCECO-East is much greater than the expectations of low educated customers (primary level).

Responsiveness dimension were rated the worst among all education levels except graduate customers, who rated empathy dimension as the worst.

Table 12 shows SERVQUAL scores across the five dimensions with respect to customer ages. Tangibles was rated as the most favorable among all dimensions by young customers aged 25 to 30 years, where empathy was rated the worst among all the dimensions by the customers of ages 41 to 50 years.

**Table (11): Dimensions of SERVQUAL Scores Across Education Levels of Customers**

| Dimension | Pri-mary | Medium | Secon-dary | Univer-sity | Un-defined |
|---|---|---|---|---|---|
| Tangibles | 0.031 | -0.22 | -0.55 | -0.20 | -0.78 |
| Reliability | -0.094 | -0.66 | -0.76 | -0.44 | -1.01 |
| Respon-siveness | -0.19 | -0.80 | -0.80 | -0.53 | -0.90 |
| Assurance | -0.09 | -0.61 | -0.76 | -0.38 | -1.02 |
| Empathy | 0.12 | -0.64 | -0.77 | -0.56 | -0.82 |
| SQ Total Unweighted | -0.04 | -0.59 | -0.73 | -0.45 | -0.91 |
| SQ Total Weighted | -0.04 | -0.63 | -0.76 | -0.44 | -0.91 |

**Table (12): Dimensions of SERVQUAL Scores Across Age Levels of Customers**

| Dimension | 25-30 | 31-40 | 41-50 | > 50 | Un-defined |
|---|---|---|---|---|---|
| Tangibles | -0.18 | -0.39 | -0.56 | -0.33 | -0.73 |
| Reliability | -0.40 | -0.56 | -0.75 | -1.0 | -0.99 |
| Respon-siveness | -0.60 | -0.64 | -0.81 | -0.62 | -0.86 |
| Assurance | -0.37 | -0.59 | -0.79 | -0.33 | -0.99 |
| Empathy | -0.40 | -0.66 | -0.83 | -0.43 | -0.80 |
| SQ Total Unweighted | -0.39 | -0.57 | -0.84 | -0.54 | -0.87 |
| SQ Total Weighted | -0.41 | -0.57 | -0.87 | -0.54 | -0.88 |

## 5.2 Problem Resolution

Three possibilities arise when a customer experiences a service problem. They are as follows:

1. The customer complains and is satisfied with the company's response.
2. The customer complains and is not satisfied with the company's response.
3. The customer does not complain to the company and remains dissatisfied.

Of these outcomes, the first is good and the last two are very bad.

To visualize the issue, the current research asked SCECO-East customers the following four questions:

1. Whether they had experienced a service problem with SCECO-East.
2. If they had experienced a problem, and whether it was resolved to their satisfactory level.
3. Whether they had reported any service deficiency to SCECO-East management.
4. What the biggest problem they ever experienced with SCECO-East was.

The answers to the first three questions were either "Yes" or "No", while for the fourth question, space was left for the respondents to freely mention the critical issues they had experienced with SCECO-East.

**Table (13): Frequencies and Percentages of Respondents Experiencing Problems**

| ITEMS | N | | Y | |
|---|---|---|---|---|
| | **Frequency** | **Percen-tage** | **Frequency** | **Percen-tage** |
| Problem Encountered? | 74 | 60.7 | 48 | 39.3 |
| Problem Resolved? | 36 | 39.6 | 55 | 60.4 |
| Complaint Submitted? | 101 | 87.1 | 15 | 12.9 |

Table (13) summarizes the results of customer responses regarding their experience with service problem resolution of SCECO-East. About 40% of the total sample experienced a problem while receiving a service from SCECO-East. Tables (14) and (15) show cross-tabulation of problems, resolutions and complaints. Of those customers having a problem, only 56% had their problems resolved by SCECO. Another important result is that only 10% of the total sample (about 24% of customers are having problems) reported the deficiency to the management of SCECO-East.

**Table (14): Cross Tabulation of (Problems) vs. (Resolved)***

| Problem? / Resolved? | N | Y | TOTAL |
|---|---|---|---|
| N | 15 (16.5%) | 28 (30.8%) | 43 (47%) |
| Y | 21 (23.1%) | 27 (29.7%) | 48 (53%) |
| **TOTAL** | 36 (39.6%) | 55 (60.4%) | 91 (100%) |

* Values in parentheses are percentages of total.

**Table (15): Cross Tabulation of (Problems) vs. (Complaints)***

| Problem? / Complaint? | N | Y | TOTAL |
|---|---|---|---|
| N | 65 (56%) | 4 (3.5%) | 69 (59.5%) |
| Y | 36 (31%) | 11 (9.5%) | 47 (40.5%) |
| **TOTAL** | 101 (87.1%) | 15 (12.9%) | 116 (100%) |

*Values in parentheses are percentages of total.

A further step was taken to investigate the source of problems across categories of services provided by SCECO-East (Table 16). Among all the new applications, 37% of them faced a problem in processing their applications. The rate was higher (45%) among reinforcement cases. SCECO-East requirements for new supply

could easily be provided by the customers because the owner of the building is involved in the process.

There is no urgency concerning the supply of power because the processing of supply is made ahead of completing the construction of the building. On the other hand, in reinforcement cases, the owner may not be involved or unavailable and the renter cannot provide all SCECO-East requirements. In addition, the urgency and speed of the power supply is the issue because the existing power supply cannot handle the load especially in the summer season.

Similarly, problems faced by residential customers constitute about 68% of all the problems faced by other customer load types: commercial and industrials. Of all the residential customers who applied to SCECO-East, 45% faced a problem with SCECO-East, while 35% of commercial customers faced problems.

**Table (16): Cross Tabulation of Problem Across Service Categories***

| Problem/ Service Category | SERVICE TYPE | | | | LOAD TYPE | | | | LOAD CLASS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | R | S | Total | R | C | I | To-tal | L | S | H | To-tal |
| N | 53 (48.6) | 10 (9.2) | 3 (2.8) | 66 (60.5) | 38 (35.2) | 20 (18.5) | 4 (3.7) | 62 (57.4) | 34 (36.6) | 18 (19) | 1 (1.1) | 53 (57) |
| Y | 32 (29.4) | 8 (7.3) | 3 (2.8) | 43 (39.5) | 31 (28.7) | 11 (10.2) | 4 (3.7) | 46 (42.6) | 21 (22.6) | 15 (16) | 4 (4.3) | 40 (43) |
| TOTAL | 85 (78) | 18 (16.5) | 6 (5.5) | 109 (100) | 69 (63.9) | 31 (28.7) | 8 (7.41) | 108 (100) | 55 (59) | 33 (35.5) | 5 (5.4) | 93 (100) |

* Values in parentheses are percentages of total.

Considering customers across several load classes, 43% of them faced problems. 53% of all customers facing problems were of low load class with total amperage of less than 400 Ampere. In addition, while 38% of all low load class faced a problem, 45% of all the substation load class (amperage between 400-5000) also faced problems.

Table 17 summarizes the SERVQUAL scores for customers grouped according to their responses to the three questions segmented to variables: Problem, Resolved and Complaints. The most favorable service quality scores were from customers whose problems were resolved satisfactorily. The next most favorable SQ scores were from customers who had experienced no recent service problems with it. Lastly, the worst scores were from customers whose problems were not resolved satisfactorily.

**Table (17): SERVQUAL Scores of Respondents with Respect to Problem Resolutions**

| SERV-QUAL | PROBLEM | | | RESOLVED | | | COMPLAINTS? | | |
|---|---|---|---|---|---|---|---|---|---|
| | N | Y | U | N | Y | U | N | Y | U |
| SQ Un-Weighted | -0.54 | -0.84 | -0.41 | -0.99 | -0.51 | -0.51 | -0.66 | -0.79 | -0.39 |
| SQ Weighted | -0.55 | -0.85 | -0.42 | -1.01 | -0.52 | -0.51 | -0.67 | -0.79 | -0.40 |
| Sample Size | 72 | 48 | 4 | 36 | 54 | 34 | 99 | 15 | 10 |

## 5.3 Main Customer Concerns

When customers were asked about areas they experienced problems in service delivery, they listed the following problems:

1. Requesting for loads substation room for reinforcement applications for loads of more than 400 amps.
2. Delay in reinforcement applications even when SCECO-East aware of the fact that circuit breaker is always tripping.
3. Delay in electrification of farms.
4. Difference in technical instructions from one employee to another.
5. Removal of SCECO-East equipment from customer's land.
6. Civil engineers not available.
7. Not maintaining SCECO-East equipment.
8. Justification for requesting service meters.
9. Mismatch between meter capacity and building requirements.
10. Delay in project execution.
11. Poor coordination between SCECO-East and Engineering/Consultant Offices.
12. Providing electric power on the basis of actual costs.
13. Delay in shifting meters.
14. Not giving all deficiency remarks at once.
15. Not complying with number of units approved by Baladia.
16. Differences in procedures between various SCECO-East branch offices and its managers.
17. High cost of bills.

18. Tough dealings/inequality with customers.
19. Changes in SCECO-East procedures/requirements from one time to another.
20. No clear authority for frontline staff to take actions.
21. Difference between SCECO-East requirements and Baladia.

The above list clearly shows the dilemma of the reinforcement applications either in the delay of response/execution or on requesting substation room from the customers when their loads become more than 400 amperes. SCECO-East needs to put more effort into examining the above problems and establishing a radical solutions to overcome these problems.

## 5.4 Correlation Analysis

The correlation matrix of SERVQUAL items is shown in Table (18). As a rule, items representing a distinct dimension should correlate highly with each other in a uniform pattern, and should not correlate as strongly with items representing another dimension. The correlations reveal that the rules for convergence (within the same dimension) and discrimination (between different dimensions) do not hold to support the existence of purely distinct five dimensions as proposed by PZB.

For instance, the first four items (Q1 to Q4), which represent the "tangibles" dimension of service quality, should converge by exhibiting uniformly high correlation among themselves, and discriminate by exhibiting low correlation with items in other dimensions.

As evidenced in Table 18, the proposed dimensions exhibit neither pure convergence nor discrimination. A strong correlation

(more than 40%) exists between most items. The strongest convergence correlations were expressed in responsiveness dimension with correlations between 56% and 75%, whereas the weakest convergence were within the tangible dimension with correlation of 54% to 64%.

Similarly, the strongest discrimination exists between tangibles and empathy dimensions, with correlation ranging from 31% to 55%, whereas the weakest were responsiveness and assurance, with correlation of 56% to 71%.

## 5.5 Analysis of Variance

The scale convergent validity is the association between SERVQUAL and responses to a question that asked customers to provide an overall quality rating of SCECO-East. Respondents rated SCECO-East overall quality by checking a score from 1 to 7, where 7 is the best rating.

The correspondence between the overall quality ratings and the SERVQUAL scores (obtained through the difference between customers' expectations and perceptions) was examined using one-way ANOVA. The treatment variable in the ANOVA's was overall quality (OQ) with 5 levels instead of 7 because very few respondents checked 1, 2, thereby necessitating creation of a combined 1,2, and 3 levels. The dependent variable was the average difference score (P-E) on each SERVQUAL dimension as well as on the total SERVQUAL scale (separate ANOVA's were conducted for each dimension and for the total scale), Table 19.

## Table (18): Correlation Matrix of SERVQUAL Items

| | $Q_1$ | $Q_2$ | $Q_3$ | $Q_4$ | $Q_5$ | $Q_6$ | $Q_7$ | $Q_8$ | $Q_9$ | $Q_{10}$ | $Q_{11}$ | $Q_{12}$ | $Q_{13}$ | $Q_{14}$ | $Q_{15}$ | $Q_{16}$ | $Q_{17}$ | $Q_{18}$ | $Q_{19}$ | $Q_{20}$ | $Q_{21}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $Q_1$ | | | | | | | | | | | | | | | | | | | | | |
| $Q_2$ | .64 | . | | | | | | | | | | | | | | | | | | | |
| $Q_3$ | .59 | .63 | - | | | | | | | | | | | | | | | | | | |
| $Q_4$ | .56 | .54 | .56 | - | | | | | | | | | | | | | | | | | |
| $Q_5$ | .62 | .47 | .65 | .60 | - | | | | | | | | | | | | | | | | |
| $Q_6$ | .62 | .39 | .55 | .63 | .64 | - | | | | | | | | | | | | | | | |
| $Q_7$ | .55 | .52 | .48 | .63 | .55 | .70 | - | | | | | | | | | | | | | | |
| $Q_8$ | .54 | .39 | .48 | .60 | .49 | .67 | .63 | - | | | | | | | | | | | | | |
| $Q_9$ | .50 | .47 | .45 | .50 | .56 | .65 | .78 | .62 | - | | | | | | | | | | | | |
| $Q_{10}$ | .57 | .45 | .44 | .51 | .67 | .66 | .66 | .46 | .68 | - | | | | | | | | | | | |
| $Q_{11}$ | .67 | .58 | .57 | .52 | .64 | .64 | .53 | .51 | .56 | .63 | - | | | | | | | | | | |
| $Q_{12}$ | .59 | .45 | .51 | .58 | .60 | .55 | .55 | .50 | .57 | .64 | .75 | - | | | | | | | | | |
| $Q_{13}$ | .68 | .48 | .55 | .49 | .66 | .61 | .59 | .51 | .59 | .66 | .70 | .71 | - | | | | | | | | |
| $Q_{14}$ | .61 | .43 | .63 | .44 | .57 | .61 | .56 | .55 | .58 | .56 | .59 | .63 | .70 | - | | | | | | | |
| $Q_{15}$ | .58 | .51 | .50 | .39 | .52 | .50 | .58 | .46 | .56 | .63 | .58 | .66 | .63 | .61 | - | | | | | | |
| $Q_{16}$ | .55 | .42 | .56 | .59 | .62 | .71 | .65 | .56 | .60 | .60 | .59 | .72 | .71 | .67 | .63 | - | | | | | |
| $Q_{17}$ | .48 | .31 | .55 | .46 | .65 | .63 | .56 | .50 | .60 | .61 | .58 | .58 | .62 | .61 | .61 | .67 | - | | | | |
| $Q_{18}$ | .42 | .42 | .55 | .56 | .37 | .38 | .37 | .33 | .45 | .38 | .48 | .44 | .44 | .50 | .42 | .51 | .51 | - | | | |
| $Q_{19}$ | .48 | .40 | .50 | .53 | .57 | .55 | .56 | .52 | .62 | .60 | .61 | .62 | .57 | .57 | .53 | .60 | .58 | .55 | - | | |
| $Q_{20}$ | .52 | .33 | .45 | .53 | .64 | .66 | .64 | .54 | .68 | .63 | .53 | .62 | .64 | .59 | .53 | .69 | .70 | .46 | .67 | - | |
| $Q_{21}$ | .55 | .38 | .53 | .51 | .62 | .67 | .65 | .55 | .67 | .64 | .50 | .60 | .65 | .69 | .65 | .68 | .73 | .46 | .67 | .78 | - |

The R-square represents the degree of association between the SERVQUAL scores and the overall quality. SERVQUAL numbers are mean values on a scale ranging from –6 to +6 on which the higher (less negative) the score, the higher is the level of perceived service quality. The strength and persistence of linkage between the overall quality and SERVQUAL scores across the whole combined dimensions offer stronger support for SERVQUAL's convergent validity (27%) than for each separate dimensions.

Furthermore, the association between SERVQUAL scores and overall service quality measures was tested by obtaining the Pearson Correlation Coefficient. The result was 0.48 which is statistically significant indicating the SERVQUAL score represents the overall quality measure.

**Table (19): ANOVA Results**

| SCALE DIMENSIONS | R-SQUARE | SERVQUAL |
|---|---|---|
| Tangibles | 0.21 | -0.40 |
| Reliability | 0.18 | -0.64 |
| Responsiveness | 0.24 | -0.66 |
| Assurance | 0.22 | -0.61 |
| Empathy | 0.25 | -0.59 |
| **Combined Scale** | **0.27** | **-0.59** |

## 5.6 Stepwise Regression

Step-wise procedure is appropriate to search for the "best" model by bringing into the regression equation the dependent variables one by one. Each variable in the model is tested as a new variable enters.

The dependent variable was the overall service quality (SQ). The independent variables that were allowed to enter the model in steps were the five service dimensions: Tangibles (Tan), Reliability (Rel), Responsiveness (Res), Assurance (Ass), and Empathy (Emp).

The regression results show considerable stability in that none of the previously entered variables were removed from any equations as a result of adding one more variable. This also suggests that there is little multi-collinearity problem, and hence the explanatory power of each of the models is greatly improved. All five models show relatively high predictive powers in that the adjusted $R^2$ ranges from 0.87 to 1.00. Table 20 shows the results of stepwise procedures results of the best-fit regression equation.

In essence, the model suggests that the overall level of service quality (SQ) is positively related to tangibles, reliability, responsiveness, assurance and empathy. It is clear that nearly all the five variables have similar effects (by standardized regression coefficients) on the level of customer SQ. In particularly, "empathy" has a greater effect on the level of SQ (Beta value of 0.24).

F values are significant, suggesting the stability of the model. Five variables account for adjusted $R^2$ of 1.00 on the overall level of SQ for the model. Moreover, the five $R^2$'s are also very close, indicating that there is little shrinkage and that the subsequent combined equation to be developed would be very robust as a predictive tool.

**Table (20): Step-wise Procedure for Dependent Variable SQ**

| Model | Variable | B | $R^2$ | F-Value* |
|---|---|---|---|---|
| 1 | RES | 0.82 | 0.87 | 798 |
| 2 | RES | 0.49 | 0.94 | 213 |
| | EMP | 0.41 | | 140 |
| 3 | TAN | 0.30 | 0.98 | 215 |
| | RES | 0.34 | | 227 |
| | EMP | 0.35 | | 271 |
| 4 | TAN | 0.22 | 0.99 | 214 |
| | REL | 0.21 | | 156 |
| | RES | 0.26 | | 246 |
| | EMP | 0.30 | | 426 |
| 5 | TAN | 0.19 | 1.00 | |
| | REL | 0.19 | | |
| | RES | 0.19 | | |
| | ASS | 0.19 | | |
| | EMP | 0.24 | | |

* Significance at 0.0001.

## 5.7 GAP 1 – Not Knowing What Customers Expect

### 5.7.1 GAP 1 Score

Gap 1 is defined as the managers' perceptions of customer expectations minus the customers' expectations. It measures how well the service provider knows what his customers expect. Table 21 compares principals' perceptions of customers' requirements with those declared by customers.

It is interesting that there is agreement between customers and principles on several dimensions. The slight disparity indicates that the service quality needs of customers are not being fully identified for dimensions of tangibles, assurance and empathy. A positive score for reliability indicates that management are greatly concerned about this dimension and consider it as the most important with respect to customers. Empathy, which is rated with least expectation score by both principals and customers, indicates that both management and customers do not expect individualized and personal attention by contact employees during service delivery. There may be two plausible reasons for this. First, SCECO-East is considered as a government monopoly agency and customers would not expect personalized attention by SCECO-East employees. Secondly, SCECO-East principals think that services provided to customers are standards in nature and there is no chance for customization.

**Table (21): Gap 1**

| Service Dimension | Principals | Customers | Gap 1 |
|---|---|---|---|
| Tangibles | 6.04 | 6.26 | -0.22 |
| Reliability | 6.36 | 6.19 | 0.17 |
| Responsiveness | 6.28 | 6.29 | -0.01 |
| Assurance | 6.21 | 6.37 | -0.16 |
| Empathy | 5.97 | 6.15 | -0.18 |

### 5.7.2 Management Perceptions of Customer Expectations

Table 22 reports mean scores of management perceptions of customers' expectations. The total mean item for the expectations component of 21 features is 6.11. This measure is lower than the mean reported by customers which is 6.25, meaning that SCECO-East management slightly underestimates customers' expectations.

Judging from the average responses for managers' perceptions of customer expectations for the 21 service features, two features received extremely high average responses, indicating that SCECO-East management felt them to be of most importance to the customers. These are: providing services at the time they promise to do (a reliability feature) and having convenient operating hours (an empathy feature). While all scores are high (more than 5.50 on a scale of 7), two features were rated by principles as the least important to customers. These are: employees being neat in appearance (a tangible feature) and having customers' best interest in mind (an empathy feature).

Comparing these results of management perception of customers' expectations with those obtained earlier from customers, we could have the following inferences:

1. SCECO-East management underestimates more than 50% of 21 service features. This is shown in minus signs in the fourth column. The higher the negative difference, the more gap in knowing customer expectations by the management.

2. While some items rated highest by customers, SCECO-East management rated these items with lowest scores. One example is "employees to be neat in appearance", rated by customers as the second essential feature, while SCECO-East managers rated it the least important feature.

## Table (22): Mean Scores of Management Perceptions of Customer Expectations for the 21 Items

| Item | Features | E Managers | E Customers | Differ-ence |
|---|---|---|---|---|
| 1 | Modern Equipment | 6.57 | 6.23 | 0.34 |
| 2 | Physical facilities | 5.83 | 6.25 | -0.42 |
| 3 | Neat – appearing | 5.71 | 6.42 | -0.71 |
| 4 | Visually appealing materials | 6.00 | 6.15 | -0.15 |
| 5 | Sincere in solving problems | 6.28 | 6.24 | 0.04 |
| 6 | Perform right the first time | 6.00 | 6.18 | -0.18 |
| 7 | Provide as they promise to do so | 6.86 | 6.13 | 0.73 |
| 8 | Error free records | 6.28 | 6.22 | 0.06 |
| 9 | Tell exactly when perform | 6.57 | 6.18 | 0.45 |
| 10 | Prompt service | 6.43 | 6.28 | 0.15 |
| 11 | Willing to help | 6.14 | 6.34 | -0.20 |
| 12 | Never too busy to respond | 6.00 | 6.34 | -0.34 |
| 13 | Instill confidence in customers | 6.14 | 6.22 | -0.08 |
| 14 | Customers feel safe | 6.14 | 6.46 | -0.32 |
| 15 | Courteous with customers | 6.00 | 6.41 | -0.41 |
| 16 | Have knowledge to answer customer questions | 6.43 | 6.40 | 0.03 |
| 17 | Give customers individual attention | 6.17 | 6.18 | -0.01 |
| 18 | Have convenient operating hours | 6.86 | 6.28 | 0.58 |
| 19 | Employees give customers personal attention | 6.14 | 5.99 | 0.15 |
| 20 | Have the customers' best interest at heart | 5.71 | 6.06 | -0.35 |
| 21 | Understand specific needs of customers | 6.00 | 6.24 | -0.24 |
| | **TOTAL EXPECTATIONS** | **6.11** | **6.25** | **-0.14** |

### 5.7.3 Antecedents of Gap 1

The reasons for Gap 1 are lack of marketing research, inadequate upward communication and too many levels of management. SCECO-East management view the number of management levels as the main source of this gap (Table 23). Table 24 shows the specific variables responsible for gap 1. The increased number of management levels between top managers and contact personnel affected the quality of communication between the two parties, which contribute to underestimating customers' requirements by principals as the messages received from contact personnel are not clear.

**Table (23): Antecedents of Gap 1**

| Item | Construct | Direction* | Mean Score |
|---|---|---|---|
| 1 | Marketing Research Orientation | - | 3.28 |
| 2 | Upward Communication | - | 3.33 |
| 3 | Levels of Management | + | 5.14 |

* Minus sign indicates that scores of these items were reversed in calculating the gap.

**Table (24): Scores of Specific Variables of Gap 1**

| Item | Variables | Mean Score |
|---|---|---|
| 1 | Amount of improvement research | 2.71 |
| 2 | Implementation of improvement research | 3.28 |
| 3 | Degree to which improvement research focuses on service quality issues | 3.28 |
| 4 | Extent of direct interaction between managers and external customers | 3.86 |
| 5 | Extent of employee-to-manager communication | 2.86 |
| 6 | Extent to which inputs from contact personnel are sought | 3.28 |
| 7 | Quality of contact between top managers and personnel in contact with customers | 3.86 |
| 8 | Number of layers between personnel in contact with customers and top managers | 5.14 |

### 5.7.4 Overall Gap Between Managers and Customers

One item was added in the principal's survey to rate the gap between SCECO-East managers in understanding/knowing customers expectations. The overall gap, as rated by principals, between SCECO-East management and its customers was 4.71, on a 7-point scale where 7-represents the greatest size of discrepancy and 1-represents the lowest.

## 5.8 GAP 2 – The Wrong Service Quality Standards

This is the gap between managers' perception of customers' expectations and the quality standards they establish to translate those expectations into specifications for delivering the appropriate level of service. Tables (25) and (26) show the factors and specific variables contributing to Gap 2.

**Table (25): Gap 2 Antecedents**

| Item | Construct | Direction* | Mean Score |
|---|---|---|---|
| 1 | Management commitment to service quality | - | 2.90 |
| 2 | Goal-setting | - | 3.28 |
| 3 | Task standardization | - | 2.86 |
| 4 | Perception of feasibility | - | 2.78 |

* Minus sign indicates that scores of these items were reversed in calculating the gap.

**Table (26): Scores of Specific Variables of Gap 2**

| Item | Variables | Mean Score |
|---|---|---|
| 1 | Resource commitment to quality | 2.71 |
| 2 | Existence of internal quality programs | 2.86 |
| 3 | Management recognition for quality commitment | 3.14 |
| 4 | Existence of a formal process for setting quality of service goals | 3.28 |
| 5 | Use of technology to standardize operations | 2.86 |
| 6 | Capabilities/systems for meeting specifications | 2.71 |
| 7 | Extent to which managers believe consumers' expectations can be met | 2.86 |

## 5.9 GAP 3 – The Service Performance Gap

This measure represents the performance gap between service specification and service delivery. The size of this gap depends upon employee willingness and ability to perform at the appropriate level.

Table (27) shows the antecedents or the key contributing factors of gap 3. Frontline staff of SCECO-East rated "role conflict", which relates to incompatible or too demanding expectations of top managers, immediate supervisors and customers over contact personnel, as the main problem (mean of 4.6 on 7 point scale) contributing to this gap. The other problem area is the "role ambiguity" (mean of 4.52) which relates to unclear information

necessary to perform jobs adequately and how employee performance will be evaluated and rewarded.

Table (28) shows the specific variables responsible for each factor. "Extent to which employees perceive they are in control of their job" is perceived by frontline staff as the greatest variable responsible for the size of gap 3 (mean of 5.22). SCECO-East contact personnel perceive themselves to be not in control of situations they encounter in their jobs. The second highest variable responsible for gap 3 as perceived by frontline staff is the "amount of paper work needed to complete service transactions" with mean of 5.11.

**Table (27): Antecedents of Gap 3**

| Item | Construct | Direction* | Mean Score |
|---|---|---|---|
| 1 | Team Work | - | 4.05 |
| 2 | Employee – job fit | - | 3.02 |
| 3 | Technology-job fit | - | 3.89 |
| 4 | Perceived control | - | 4.09 |
| 5 | Supervisory control systems | - | 3.83 |
| 6 | Role conflict | + | 4.60 |
| 7 | Role ambiguity | + | 4.52 |

*Minus sign indicates that score of these items were reversed in calculating the gap.

## Table (28): Scores of Specific Variables of Gap 3

| Item | Variables | Direc-tion | Mean Score |
|---|---|---|---|
| 1 | Extent to which employees view other employees as customers | - | 3.86 |
| 2 | Extent to which contact personnel feel upper level managers genuinely care for them | - | 4.53 |
| 3 | Extent to which contact personnel feel they are cooperating rather than competing | - | 3.63 |
| 4 | Extent to which employees feel personally involved and committed | - | 4.21 |
| 5 | Ability of employees to perform job | - | 2.59 |
| 6 | Importance and effectiveness of selection process | - | 3.42 |
| 7 | Appropriateness of tools and technology for performing job | - | 3.89 |
| 8 | Extent to which employees perceive they are in control of their jobs | - | 5.20 |
| 9 | Extent to which contact employees feel they have flexibility in dealing with customers | - | 3.67 |
| 10 | Predictability of demand | - | 3.48 |
| 11 | Extent to which employees are evaluated on what they do (behaviors) rather than solely on output quantity | - | 3.83 |
| 12 | Amount of paper work needed to complete service transactions | + | 5.11 |
| 13 | Number of internal contacts that contact-employee must make to complete a service transaction or answer customer queries | + | 4.73 |
| 14 | Existence of management policy that conflicts with specifications | + | 3.96 |
| 15 | Frequency and quality of downward communication | - | 4.87 |
| 16 | Extent of constructive feedback given to contact personnel | -- | 4.76 |
| 17 | Product knowledge of contact personnel | - | 3.52 |
| 18 | Product-specific training provided to contact personnel | - | 4.78 |
| 19 | Training in communication skills provided to contact personnel | - | 4.78 |

## 5.10 GAP 4 – Difference Between Service Delivery and External Communications

Promising customers more than the firm can deliver will quickly lead to customer dissatisfaction and complaints. The two key factors contributing to this gap are the inadequate horizontal communications and propensity to over-promise.

Tables 29 and 30 show the antecedents and the specific variables of this gap. SCECO-East employees felt that awareness of external communications to consumers before they occur and the differences of procedures across branches are the most important contributing issues of gap 4.

**Table (29): Antecedents of Gap 4**

| Item | Constructs | Mean Score |
|---|---|---|
| 1 | Horizontal communication | 4.14 |
| 2 | Propensity to over-promise | 3.30 |

**Table (30): Scores of Specific Variables of Gap 4**

| Item | Variables | Direc-tion* | Score |
|---|---|---|---|
| 1 | Extent to which contact personnel are aware of external communications to consumers before they occur | - | 4.40 |
| 2 | Communications between contact personnel and engineering, construction and operation units | - | 3.50 |
| 3 | Similarity of procedures across departments and branches | - | 4.37 |
| 4 | Extent to which firm feels pressure to generate new business | + | 3.56 |
| 5 | Extent to which firm perceives that competitors over-promise | + | 3.07 |

*Minus sign indicates that scores of these items were reversed in calculating the gap.

## 5.11 Comparison of Gap Sizes

Table (31) compares sizes of Gaps 1, 2, 3 and 4 as viewed by SCECO-East supervisors and frontline staff. Front-line employees believe Gap 3 is the largest, i.e. when delivery does not match the company's standards and specifications. Front line staff also agree that Gap 4 contributed to the problem, i.e. when the delivery does not match with the company's promises but to a lesser degree than Gap 3.

SCECO-East managers thought that they have an excellent understanding of customers' perception (Gap 1) and excellently translated these requirements into quality standards and

specifications. Both Gaps 1 and 2 scores were either below the mid-point scale or near the midpoint.

The overall results are good with a need to empower SCECO-East frontline staff to reduce the deficiency in service delivery (Gap 3).

**Table (31): Comparison of Gap Sizes**

| Service Gap | Mean Score* |
|---|---|
| Gap 1<br>Not knowing what customers expect | 3.53 |
| Gap 2<br>Wrong SQ standards | 2.92 |
| Gap 3<br>Service Performance Gap | 4.14 |
| Gap 4<br>When promises do not match delivery | 3.78 |
| Gap 5<br>Customers' expectations – perceived service | -0.65 |

*All Gaps on scale of 7 except Gap 5 score from –6 to +6.

# CHAPTER # 6

# CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Conclusions

The following are the conclusions drawn from the data analysis and discussions furnished in Chapter 5.

### 6.1.1 21 Service Features

The 21 service features mentioned in this research correspond to all services as suggested by the literature and more closely with practices for private sectors. While 21 of the service features rated by SCECO-East customers to be important for them especially "feeling safe in their transactions", empathy features such as "give personal attention" and "to have customers' best interests at heart" received the least scores. They were not perceived to be important because customers do not expect to get these features in a monopoly service industry or government managed organization. It is also possible that service customers may not have fully grasped the significance of what was being asked.

Also concluded by this study is the excellent SCECO-East performance in tangible cues like physical facilities and its operating hours which achieved the highest SERVQUAL scores among the 21 features when performance was compared to expectation.

The emphasis should be placed on selection and training of service front line personnel. SCECO-East as expected of this study to be more marketing oriented: to choose carefully the personnel who interact with customers, to regularly collect information about customer needs and ensure customer satisfaction.

### 6.1.2 Service Dimensions

It was found that responsiveness and reliability were rated by customers as of the lowest quality among the five dimensions. Only tangibles received a score below the total SERVQUAL mean. Based on (P-E) gap scores for items concerning these dimensions, the items relating to "providing service at they promise to do so" and "prompt service" revealed the biggest gaps. With these data, SCECO-East management should understand better the deficiencies in order to improve its services to customers and improve its image in the eyes of customers.

### 6.1.3 Service Categories

Overall, there was some variation in ranking service quality across different service customer categories. The results of Table–4 suggested that those reinforcement, commercial applicants with a load class of less than 400 amperes rated SCECO-East performance with the lowest scores. Moreover, the deficiency of performance occurred mainly in responsiveness and then in reliability dimensions. Reinforcement and commercial customers expecting a rapid response by SCECO-East as they require an urgent response. SCECO-East, based on these results, should implement a certain procedure for reinforcement applications different from other applications as customers are suffering from loss of power due to shortage of capacity.

### 6.1.4 Gap 1

The results identified the fact that more effort is needed to improve the management perception of customer expectations specially in tangibles and empathy dimensions. Managers should spend more time with frontline staff to improve their knowledge of customer requirements.

In addition, there is a need for "flattening out" with some layers of management being omitted. This is to improve the upward communication to allow clearer messages to be transmitted from frontline staff through a shorter path to top management.

SCECO-East should conduct several studies to identify customers' needs and the degree of satisfaction with existing service levels.

### 6.1.5 Gap 2

Management need to be more committed to service quality and set long-term goals for quality. It is needed to establish quality indicators and to target staff to improve those indicators.

### 6.1.6 Gap 3

The main area for improvement is eliminating the distress of role conflict. The result will be better employee performance and hence a reduction of gap 3. As role conflict is related positively to feelings of job-related tension and negatively to job satisfaction, SCECO-East management should use performance measurement systems that focus on the consumer and internal

efficiency goals. They should tie the compensation to service quality delivery as measured by performance measures.

There also needs to be more management focus on downward communication to clearly direct and influence personnel at lower levels in the organization. The more frequently managers provide clear and unambiguous communication, the lower employees' role ambiguity will be. Several other improvements such as empowering frontline staff to make decisions and the reduction of paper work are needed to complete transactions which will improve the service delivery and will narrow gap 3.

### 6.1.7 Gap 4

Frontline employees need to be aware of all company communications before they occur and participation in any campaign would result in more consumer expectations. SCECO-East management need to enforce the coordination or integration of departments and different branches to achieve strategic objectives. SCECO-East should not allow managers of individual branches to make significant changes in procedures and policies as consumers may not receive the same level of service quality across the branches.

### 6.1.8 Comparison of Gap Sizes

The overall results of gap 5 is acceptable and customers state that SCECO-East is delivering a quality of service that closely matches their current perceptions (score of –0.65, where 0 is the reference when expectation and perception are met). While customers seem pleased with the overall service quality, SCECO-East cannot stand still as customers' expectations are likely to increase over time.

Gap 3 is more critical than the other four managerial gaps in affecting perceived service quality and in explaining service quality variations. Because SCECO-East has multiple sites and it is a labor-intensive service, applications are most likely to be experienced this gap. This makes the main area of improvement on the part of service delivery. Training and empowering frontline staff to respond to customers is essential.

SCECO-East should also create a favorable Gap 4 by employing effective external communications to create realistic consumer expectations and to enhance consumer perceptions.

Maintaining a close relationship between SCECO-East and its customers would reduce gaps between expectations and delivered service.

### 6.1.9 Problem Resolution

SCECO-East management should not focus only on complaining customers, but also on dissatisfied customer as 43% of the customers that have a problem with SCECO-East are not satisfied with the solution of the problem.

The non-complainers may be just as dissatisfied as complainers are and perhaps even more so. They may damage the firm by communicating their dissatisfaction to other potential customers. About 76% of the customers that have a problem with SCECO-East do not report the complaint officially. SCECO-East should encourage their customers to complain and make it easy for them to do so. It also needs to encourage their employees to respond effectively to customer problems. Service contact employees need specific training about how to deal with

customers and how to help customers solve service problems quickly and personally.

## 6.2 Customers' Suggestions

Several changes and recommendations suggested by SCECO-East customers when they were asked to list the changes they would make if they become members of SCECO-East management to improve the level of service quality. The list includes the following suggestions:

1. Improve employees positions, benefits and salaries.
2. Decrease cost of connection/consumption charges.
3. Let duty working hours of 2 periods: morning and evening.
4. Implement strictly all SCECO-East rules and regulations in all SCECO-East branches.
5. Give accurate appointments.
6. Reduce number of documents required.
7. Increase the number of civil engineers.
8. Improve procedures and use of PC.
9. Improve communication with engineering/consulting offices.
10. Recruit employees specialized in customer services.
11. Ensure accurate KWH meter readings.
12. Give authority to front line staff.
13. Create friendly relationship, cooperation, trust between customers and SCECO-East employees.
14. Implement strict timetable schedule for customer's applications.
15. Implement energy conservation programs.
16. Clearly show the company requirements for power reinforcement and implement equally for all customers.

17. Coordinate with all government agencies regarding rules and regulations.
18. Reduce cost of farm electrification.
19. Implement incentive plans for good employees based on customer feedback.
20. Increase number of field inspectors.
21. Enhance inspection and test of KWH meters.
22. Speed up the process of solving customer problems and complaints.
23. Ignore of silly remarks.
24. Call customer for any deficiency remark on his application and do not wait for his visit.

## 6.3 Recommendations

The results of the empirical study identify a number of research and managerial implications. They are as follows:

1. It is important to manage and control every service encounter to enhance overall perceptions of service quality.

2. Improving service quality is achieved through understanding the customer's expectation forming process.

3. Due to the lack of customer technical quality which contributed to the decrease in service quality, efforts to be made to socialize customers to improve their technical quality aspects.

4. Service quality can be improved for all customers, but there is considerable cost in doing so. The question which all must ask is whether the expenditure incurred attempting

to satisfy the needs of customers outweighs the potential loss stemming from the effect of having dissatisfied customers.

5. Since the desired service is more stable than adequate service and, therefore, less subject to change, SCECO-East should focus on strategies to manage adequate service levels expectations.

6. The posited difference between the stability of desired and adequate service also implies a need for SCECO-East focusing on measurement of adequate service more frequently than desired service.

## 6.4 The Proposed SQ Model

### 6.4.1 The Model

Results obtained in this study through application of SERVQUAL GAP Model proposed by PZB and insights from previous research showing the deficiency of the model led to the development of the proposed conceptual model of SQ shown in Figure 9.

The model is divided into three main sections or components: (1) Service production, (2) Service delivery, and (3) Service standard index (SSI). The overall evaluation of the first two components will determine the total perceived service (TPS). Service Quality (SQ) is the result of comparing the total perceived service and service standard index:

(a) when TPS > SSI : Total perceived service of firm x is better than the average performance of the other firms in the industry.

(b) when TPS = SSI : Firm x is performing similar to the average performance in the industry.

(c) when TPS < SSI : Performance of firm x is behind those firms in the industry.

The three components of the proposed model and its constructs and variables will be explained hereafter:

1. **Service Production Component**: It is the outcome or the technical aspect of the service. Because this component is the main goal of the service encounter, it has a great effect in the overall evaluation process of the total perceived service. It consists of two constructs: service design and management role.

   (a) ***Service design***: It constitutes the methodology, standards specification, procedures and policies concerning how the service outcome is to be produced. There are three main variables affecting this construct, namely: organization policies and procedures, customer requirements and government rules and regulations.

      1. Organization policies and procedures: Contribute much to designing the service outcome. It includes both the technical and managerial guidelines in producing and submitting the service to the client.

2. Customer requirements: Designs that take into consideration the feedback, complaints, wants and needs of customers, are the ultimate designs.

3. Government rules and regulations: Usually, these are restrictions imposed by the government on service design. The greater the involvement of government (the higher the level of restrictions), the worse the design.

(b) ***Management Role***: It is the responsibility of management to keep service production (outcome) as specified in the service design. Management role includes providing required resources and removing obstacles. Two variables make this construct:

1. Management commitment: This includes commitment of budgets, implementation of policies and procedures, monitoring and supervision.

2. Problem solving decision making (PSDM): It is the management's responsibility to provide quick actions for adjustment of service design when necessary to solve customer problems.

2. **Service Delivery Component:** It is the method for transporting the service from the provider to the customer. It is the functional aspect of the service. If the outcome of the service is standard, service delivery becomes a major role in evaluating the total perceived service. Two constructs are of concern: employee response and physical evidence.

a. ***Employee response***: They are tools to submit a service to the customer. Variables affecting this response include:

1. Skill: The ability of frontline staff to deal with customers in an effective manner. Skills include communication, negotiation and listening. Skills may be obtained through training and experience.

2. Knowledge: It is the technical information about all aspects of the delivered service. It can be attained through education and experience.

3. Loyalty: The higher the employee loyalty to the company, the better the response and care with customers. Loyal employees do not want to damage the firm's image or reputation by misbehavior with the company's customers. Loyalty can be attained through recognition, compensation and job promotion.

4. Organization policies and procedures: As stated earlier this will affect employees response as it will set timings to complete a transaction and some other instructions for service delivery.

5. High demand: The quantity of job loads assigned to employees to serve customers.

b. ***Physical evidence***: It is the tangibles and physical appearances of all items related to the service. Variables determining this construct include: condition of facilities and buildings, reception halls, air conditioning and lighting, employees dress and uniform, tools and equipment, communication facilities, etc.

3. **Service Standard Index Component:** It is the expected customer requirement from a similar firm in the industry. It needs to be established and then updated regularly by consulting firms or Chamber of Commerce in the region. It could also be estimated by marketers. Several constructs are necessary to be determined before establishing or estimating the index which includes:

   (a) Nature of the service industry: Whether it is a monopoly or competitive and what type of services: utility, construction, airlines, telephone, etc.

   (b) Nature of firms in the industry: Whether it is private or public, government or non-government, for profit or non-profit making organizations.

   (c) Environment and culture: Includes culture of customers in the region, service demand, number of firms in the industry, etc.

### 6.4.2 Propositions

1. The model suggests that total perceived service is the overall resultant of service production and service delivery. The customer will allocate the weight of importance value of each component in order to determine total perceived service.

2. The weight of importance value will depend mainly on the nature of service. When the service is highly customized and require more technical aspects than functional aspects, customers will allocate more weights in service production than in service delivery. When service is less customized and

requires more functional aspects than technical, service delivery will become more important than service production and customers will allocate more weights to service delivery.

3. A total of four constructs: service design, management role, employee response and physical evidence are responsible for determining the total perceived service. The first two constructs constitute the service production while the last two constructs constitute the service delivery.

4. High load demands will have a negative impact over response even though all variables responsible for employee response are favorable. This is because employees will not be able to respond adequately when requests increase more than employee's ability. Thus, service delivery will be negatively affected on aggressive demands.

5. Service Standard Index is fixed for all firms in the industry and established on the basis of the environment and nature of organization and industry. Individual customers expectations to be moderated to suit SSI in order to evaluate service quality of the firm. This is supported by the findings of ZBP (1993) from focus groups that expectations do not change but tolerance changes and proposed that customers assess service performance based on two standards: what they desire and what they deem acceptable.

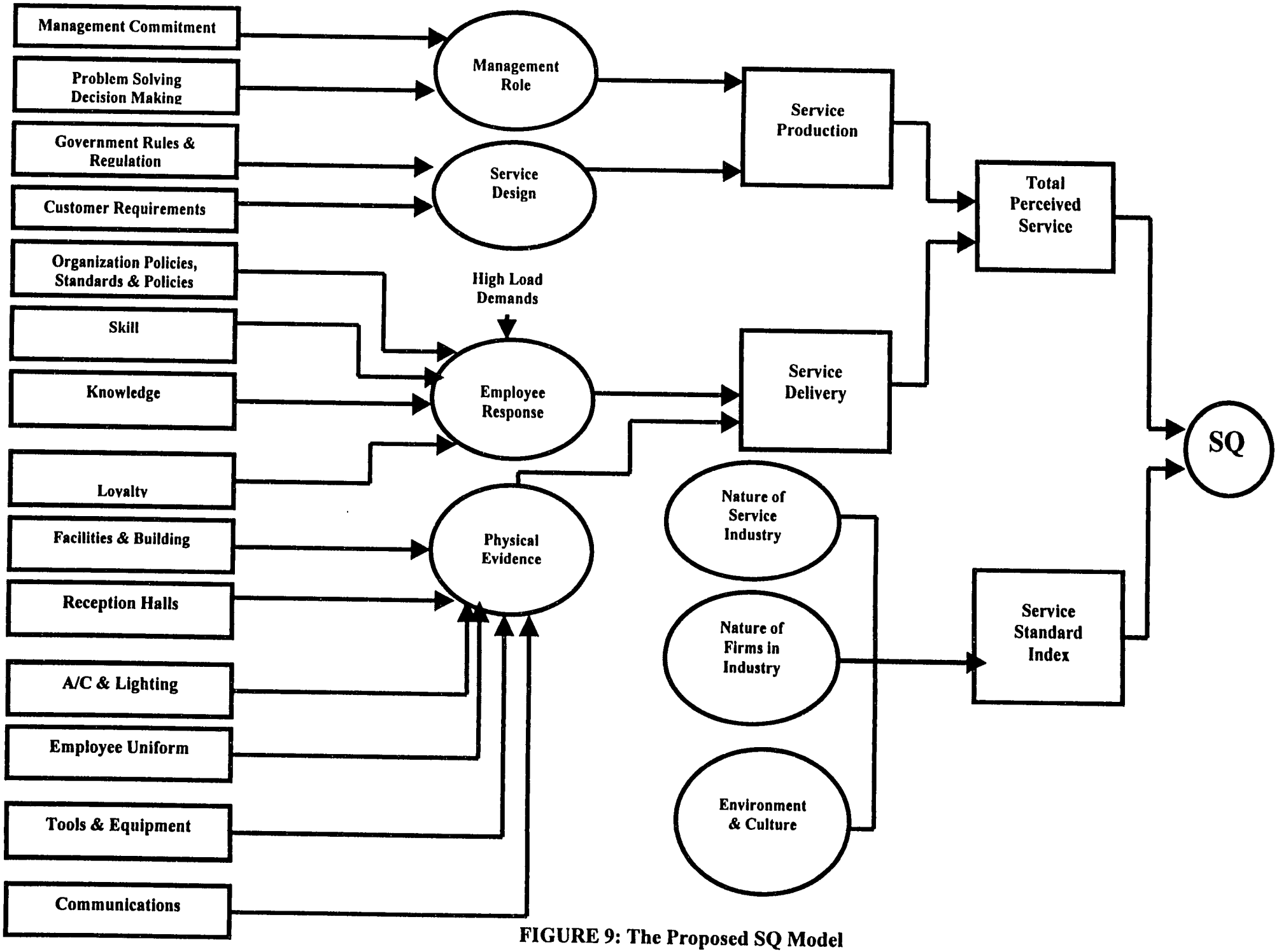


FIGURE 9: The Proposed SQ Model

## 6.5 Future Research

In depth, research will be necessary to determine the nature of service quality in the Saudi Arabian environment as the form of service quality may vary across service industries (public vs. private) and across countries/customers. Some of these topics include, but are not limited, to the following:

1. Establishing an expectation index for service industry in Saudi Arabia taking into consideration the types of customers, regions and nature of industry.

2. Establishing an instrument to measure service quality suitable to the local culture.

3. Determining how the service features are changing due to conditions such as competition (i.e. telephone company)?

4. Considering the service features differ for various types of service firms in Saudi Arabia (i.e. electrical, telephone, water, etc.)?

5. Checking whether there are features other than the 21 identified which determine service quality in Saudi Arabia?

6. Identifying the sole sources responsible for forming customers' expectations: is it WOM, past experience or any others.

7. Defining the nature of service delivery across service firms in Saudi Arabia.

# APPENDIX

## SERVQUAL INSTRUMENT

**PART 1:**

**DIRECTIONS: Based on your experiences as a customer of electrical company, please think about the kind of electrical company that would deliver excellent quality of service. Please show the extent to which you think such electrical company would possess the feature described by each statement. If you feel a feature is *is not at all essential* for excellent electrical companies such as the one you have in mind, circle the number "1". If you feel a feature is *absolutely essential* for excellent electrical companies, circle "7". If your feelings are less strong, circle one of the numbers in the middle. There are no right or wrong answers--all we are interested in is a number that truly reflects your feelings regarding electrical companies that would deliver excellent quality of service.**

**E 1. Excellent electrical companies will have modern-looking equipment.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

E 2. The physical facilities at excellent electrical companies will be visually appealing.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 3. Employees of excellent electrical companies will be neat-appearing .

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in an excellent electrical company.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 5. When excellent electrical companies promise to do something by a certain time, they will do so.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 6. When customers have a problem, excellent electrical companies will show a sincere interest in solving it.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 7. Excellent electrical companies will perform the service right the first time.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 8. Excellent electrical companies will provide their services at the time they promise to do so.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E 9. Excellent electrical companies will insist on error-free records.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

E10. Employees of excellent electrical companies will tell customers exactly when services will be performed.

1 2 3 4 5 6 7

| Strongly disagree | Strongly agree |
|---|---|

E11. Employees of excellent electrical companies will give prompt service to customers.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

E12. Employees of excellent electrical companies will always be willing to help customers.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

E13. Employees of excellent electrical companies will never be too busy to respond to customer requests.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

E14. The behavior of employees of excellent electrical companies will instill confidence in customers.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E15. Customer of excellent electrical companies will feel safe in their transactions.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E16. Employees of excellent electrical companies will be consistently courteous with customers.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E17. Employees of excellent electrical companies will have the knowledge to answer customer questions.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E18. Excellent electrical companies will give customers individual attention.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E19. Excellent electrical companies will have operating hours convenient to all their customers.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E20. Excellent electrical companies will have employees who give customers personal attention.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E21. Excellent employees of excellent electrical companies will understand the specific needs of their customers.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**E22. The employees of excellent electrical companies will understand the specific needs of their customers.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

PART 2:

**DIRECTIONS:** The following set of statements relate to your feelings about SCECO-East Electrical Company's. For each statement, please show the extent to which you believe SCECO-East has the feature described by the statement. Once again, circling a "1" means that you strongly dis- agree that SCECO-East has that feature, and circling a "7" means that you strongly agree. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers---all we are interested in is a number that best shows your perceptions about SCECO-East repair service.

P 1. SCECO-East has modern-looking equipment.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 2. SCECO-East physical facilities are visually appealing.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 3. SCECO-East employees are neat-appearing.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 4. Materials associated with the service (such as pamphlets or statements) are visually appealing at SCECO-East.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 5. When SCECO-East promises to do something by a certain time, it does so.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 6. When you have a problem, SCECO-East shows a sincere interest in solving it.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 7. SCECO-East performs the service right the first time.

1 2 3 4 5 6 7
Strongly disagree Strongly agree

P 8. SCECO-East provides its services at the time it promises to do so.

1 2 3 4 5 6 7

| | |
|---|---|
| Strongly disagree | Strongly agree |

P 9. SCECO-East insists on error-free records.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

P10. Employees of SCECO-East tell you exactly when services will be performed.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

P11. Employees of SCECO-East give you prompt service.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

P12. Employees of SCECO-East are always willing to help

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

P13. Employees of SCECO-East are never too busy to respond to your requests.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**P14. The behavior of employees of SCECO-East instills confidence in customers.**

1 2 3 4 5 6 7
Strongly disagree Strongly agree

**P15. You feel safe in your transaction with SCECO-East.**

1 2 3 4 5 6 7
Strongly disagree Strongly agree

**P16. Employees of SCECO-East are consistently courteous with you.**

1 2 3 4 5 6 7
Strongly disagree Strongly agree

**P17. Employees of SCECO-East have the knowledge to answer your questions.**

1 2 3 4 5 6 7
Strongly disagree Strongly agree

**P18. SCECO-East gives you individual attention.**

1 2 3 4 5 6 7
Strongly disagree Strongly agree

**P19. SCECO-East has operating hours convenient to all its customers.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**P20. SCECO-East has employees who give you personal attention.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**P21. SCECO-East has your best interests at heart.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

**P22. Employees of SCECO-East understand your specific needs.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly disagree | | | | | | Strongly agree |

PART 3:

**DIRECTIONS:** Listed below are five features pertaining to electrical companies and the services they offer. We should like to know how important each of these features is to *you* when you evaluate an electrical company's quality of service. Please allocate a total of 100 points among the five features *according to how important each feature is to you*--the more important a feature is to you, the more points you should allocate to it. Please ensure that the points you allocate to the five features add up to 100.

1. The appearance of the electrical company's physical facilities,equipment, personnel, and communications materials. ____points

2. The ability of the electrical company to perform the promise service dependably and accurately. ____ points

3. The willingness of the electrical company to help customers and provide prompt service. ____ points

4. The knowledge and courtesy of the electrical company's employees and their ability to convey trust and confidence. ____ points

5. The caring, individualized attention the electrical company provides its customers. ____ points

TOTAL POINTS ALLOCATED 100 points

# إستبيان العميل

اعتماداً على خبرتك وتجربتك كعميل لخدمات شركة الكهرباء ، يرجى تقييم العبارات في الحقلين أدناه .

**أولاً :-** كما ينبغي لشركة كهرباء مثالية (ممتازة) ترضاها . التقييم ينبغي أن يوضح مدى اعتقادك أن هذه الشركة الممتازة يجب أن توفر تلك الخدمة الموضحة من خلال كل عبارة فإذا شعرت أن الخدمة المشروحة من خلال العبارة غير ضرورية بأن توفرها شركة الكهرباء المثالية فيمكن تقييمها (١) ، واذا كانت الخدمة ضرورية بأن توفرها الشركة المثالية فيمكن وضع الاختيار (٧) .

**ثانيا:-** تقييم أداء شركة كهرباء الشرقية ( سكيكو الشرقية ) ، كما شعرت عند تعاملك معها في توفير الخدمة المذكورة بالعبارات أدناه .

**مرة أخرى :-** إن إختيارك للقييم (١) يعنى عدم موافقتك بقوة ( أعارض بقوة ) ، والتقييم (٧) يعني موافقتك بقوة ( أؤيد بقوة ) والارقام فيما بينها توضح درجة قوة تأييدك أو معارضتك .

| التسلسل | الخدمة | بالنسبة لشركة كهرباء مثالية | أداء شركة كهرباء (سكيكو) الشرقية |
|---|---|---|---|
| ١ | تستخدم الشركة أجهزة ومعدات حديثة كأجهزة الحاسب والإتصال | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢ | مباني الشركة وصالات الإستقبال مهيأة بشكل جيد لإستقبال المراجعين | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٣ | مظهر الموظفين لائق ونظيف | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٤ | النماذج والبيانات المستخدمة واضحة وسهلة التعبئة | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٥ | يتصرف موظفي الشركة بصدق في تعاملهم لحل مشاكل المراجعين | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٦ | تؤدي الشركة خدماتها بدقة وبدون أخطاء | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٧ | تلتزم الشركة بتأدية خدماتها في الوقت التي وعدت به | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٨ | تحافظ الشركة على سجلات بدون أخطاء | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٩ | يوضح موظفي الشركة للمراجعين الوقت المحدد لتنفيذ الخدمة المطلوبة | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٠ | يقدم موظفي الشركة خدمة سريعة للمشتركين | ١ ٢ ٣ ٤ ٥ ٦ ٧ | ١ ٢ ٣ ٤ ٥ ٦ ٧ |

| | | | |
|---|---|---|---|
| ١١ | لدى موظف الشركة الرغبة الدائمة في مساعدة المراجعين في جميع طلباتهم | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٢ | يتفرغ موظفي الشركة للإجابة على طلبات المشتركين | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٣ | تصرفات موظفي الشركة تغوس الثقة في نفوس العملاء | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٤ | يشعر عملاء الشركة بالأمان في معاملاتهم | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٥ | يتعامل موظفوا الشركة على الدوام بلطف مع عملائهم | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٦ | لدى موظفي الشركة المعرفة والإلمام للاجابة عن اسئلة المراجعين | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٧ | تعطي الشركة عملائها اهتمام خاص وفردي | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٨ | وقت دوام الشركة مناسب للعملاء | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ١٩ | لدى الشركة موظفون يعطوا عملائهم انتباه شخصي | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ٢٠ | تحقق الشركة رغبات المشتركين | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |
| ٢١ | يتفهم موظفوا الشركة احتياجات عملائهم الخاصة | ① ② ③ ④ ⑤ ⑥ ⑦ | ① ② ③ ④ ⑤ ⑥ ⑦ |

## الجزء الثاني :-

١- أدناه خمس خواص أو مميزات لخدمات شركات كهرباء بشكل عام ( دون تحديد شركة بعينها) والمطلوب هو معرفة مدى أهمية كل خاصية بالنسبة لك عندما تقيم جودة خدمة شركة كهرباء .

يرجى توزيع ١٠٠ درجة على الخواص الخمس **حسب أهميتها بالنسبة لك** بحيث تحوز أهم خاصية أعلى درجة وهكذا ...بحيث يصبح مجموع النقاط الموزعة ١٠٠ نقطة لجميع الخواص الخمس :-

١- مظهر مباني شركة الكهرباء والمعدات وأجهزة الاتصالات . _____ نقطة .

٢- قدرة شركة الكهرباء على تأدية الخدمة المطلوبة بدقة واعتمادية على النفس . _____ نقطة .

٣- رغبة شركة الكهرباء مساعدة عملائها وتزويدهم بخدمة سريعة . _____ نقطة .

٤- معرفة ولطف موظفي الشركة وقدرتهم على تأدية مهامهم بثقة . _____ نقطة .

٥- العناية والاهتمام والانتباه الودي للعملاء . _____ نقطة .

المجموع :- ١٠٠ نقطة

## الجزء الثالث :-

(١) - قيم جودة الخدمة الكلية لكهرباء الشرقية .

سيئة جدا ١ ٢ ٣ ٤ ٥ ٦ ٧ ممتازة جدا

---

(٢) - **نوع الخدمة** ☐ جديد ☐ تقوية ☐ تجزئة ☐ أخرى(أذكرها)_____

**نوع المبنى** ☐ سكني ☐ تجاري ☐ صناعي ☐ أخرى (أذكرها)_____

**اجمالي الاحمال** ☐ ٤٠٠ أمبيروأقل ☐ ٤٠١ أمبير الى ٥٠٠٠ أمبير ☐ أكثر من ٥٠٠٠ أمبير

---

(٣) - هل سبق أن واجهتك مشكلة بخدمات كهرباء الشرقية ؟ نعم ☐ لا ☐

---

(٤) - اذا كان قد صادفتك مشكلة ، هل تم حلها حسب ما ترتضيه ؟ نعم ☐ لا ☐

---

(٥) - هل سبق أن تقدمت بشكوى لإدارة كهرباء الشرقية عن أي خدمة لم ترتضيها ؟ نعم ☐ لا ☐

---

(٦) - ما هي أكبر مشكلة واجهتها مع كهرباء الشرقية ؟ .....

.....

---

(٧) - لو افترض أنك احد اعضاء ادارة كهرباء الشرقية ، ما هو التغيير الذي ستعمله لرفع مستوى جودة الخدمة؟

.....

---

(٨) سجل أي ملاحظات أخرى ؟

.....

---

(٩) - مستوى التعليم ☐ إبتدائي ☐ متوسط ☐ ثانوي ☐ أخرى (أذكرها)_____

(١٠) - العمر ☐ ٢٥ - ٣٠ ☐ ٣١ - ٤٠ ☐ ٤١ - ٥٠ ☐ أكبر من ٥٠ سنة

---

# إستبـــيان الموظف

**اعتمادا على خبرتك وتجربتك كموظف في كهرباء الشرقية ، يرجى تقييم العبارات أدناه حسب ما هو واقع فعـلا في الشركة ، إذا شعرت بأن الوضع المذكور بالعبارة نادرا ما يحدث فيمكن تقييمها بـ ( ١ ) قليل جـدا وإذا كان الوضع المذكور بالعبارة يتكرر بكثرة فيمكن تقييمها بـ ( ٧ ) كثير جدا وما بينهما من تقييم يعكس درجـة الحدوث.**

| التسلسل | الخدمة | قليل جدا ١ ٢ ٣ ٤ ٥ ٦ ٧ كثير جدا |
|---|---|---|
| ١ | مدى معاملة الموظفين لزملائـهم الموظفـين الآخرين كعملاء . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢ | مدى شعور موظفي الجمهور بعناية المدراء بهم | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٣ | مدى شعور موظفي الجمهور بأنهم متعـاونون وليس يتنافسون مع الآخرين في الشركة . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٤ | مدى شعور الموظفين بالمشاركة الشـخصية في تنظيم إجراءات العمل . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٥ | قدرة الموظفين في تأدية مهام عملهم . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٦ | أهمية وكفاءة عملية اختيار الموظفين المناسـبين للأعمال . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٧ | مناسبة الأدوات والتقنية لأداء العمل . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٨ | مدى شعور الموظفين بأنهم اصحاب القـرار في عملهم . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٩ | مدى شعور موظفي الجمهور بأن لديهم المرونة في التعامل مع العملاء. | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٠ | قدرة الموظف على التنبؤ بالخدمات المطلوبـة والملحة . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١١ | مدى شعور الموظفين بأن تقييمهم يتم علـى تصرفاتهم في أداء العمل وليس فقـط علـى الانتاجية النهائية . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٢ | كمية الاعمال الورقية لإنهاء خدمة العميل . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٣ | عدد الاتصالات الداخلية التي يجريها موظفـوا الجمهور لإنهاء خدمة أو الاجابة عن استفسـار عميل. | ١ ٢ ٣ ٤ ٥ ٦ ٧ |

| | | |
|---|---|---|
| ١٤ | وجود توجيهات ادارية تتعارض مع المواصفات والانظمة . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٥ | تكرار وجودة الاتصال من المدراء الى الموظفين. | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٦ | مدى النقد الايجابي (البناء) لموظفي الجمهور. | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٧ | معرفة وإلمام موظفي الجمهور بالخدمة المقدمة . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٨ | التدريب المعطى لموظف الجمهور بخصوص الخدمة المراد تقديمها . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ١٩ | تدريب موظفي الجمهور بمهارات الاتصال . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢٠ | مدى وعي وادراك موظفي الجمهور بالاتصالات الخارجية للعملاء قبل حدوثها . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢١ | مدى الاتصال بين موظفي الجمهور وأقسام العمليات والهندسة والانشاء | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢٢ | مدى مشابهة الاجراءات عبر الادارات والأقسام . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢٣ | مدى شعور الشركة بضرورة انشاء وإيجاد أعمال جديدة . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |
| ٢٤ | مدى إدراك الشركة بأن الشركات المنافسة الأخرى تفرط وتغالي بالوعود . | ١ ٢ ٣ ٤ ٥ ٦ ٧ |

**مستوى التعليم** ☐ ابتدائي ☐ متوسط ☐ ثانوي ☐ جامعي

**عدد سنوات الخبرة** ☐ ٥ سنوات واقل ☐ ٦___١٠ ☐ ١١___١٥ ☐ اكثر من ١٥ سنة

**العمر** ☐ ٢٥___٣٠ ☐ ٣١___٤٠ ☐ ٤١___٥٠ ☐ اكبر من ٥٠ سنة

**نسبة اتصالك بالجمهور** ☐ ٣٠% واقل ☐ ٣١___٥٠% ☐ ٥١___٨٠% ☐ ٨١___١٠٠%

# Management Survey

## Part 1 :

Based on your experiences as senior / middle manager of SCECO-East , please think about your perception of external customer expectations of the kind of electrical company that will deliver excellent quality .

Please show the extent to which you think that the customer of an electric company will require the feature described by each statement.

If you feel a feature is not at all essential to the customers , circle the number "1" , if you feel a feature is absolutely essential by customers , circle "7" , if your feelings are less strong , circle one of the numbers in the middle .

| S.N | Statement | Strongly disagree 1 2 3 4 5 6 7 Strongly agree |
|---|---|---|
| 1 | **Excellent electrical companies will have modern-looking equipment (office equipments , PC's, ....)** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 2 | **The physical facilities at excellent electrical companies will be visually appealing.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 3 | **Employees of excellent electrical companies will be neat appearing .** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 4 | **Materials associated with the service (such as pamphlets or forms) will be visually appealing in an excellent electrical company.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 5 | **When customers have a problem, excellent electrical companies will show a sincere interest in solving it.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 6 | **Excellent electrical companies will perform the service right the first time.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 7 | **Excellent electrical companies will provide their services at the time they promise to do so.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 8 | **Excellent electrical companies will insist on error-free records.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 9 | **Employees of excellent electrical companies will tell customers exactly when services will be performed.** | ① ② ③ ④ ⑤ ⑥ ⑦ |

| | | |
|---|---|---|
| 10 | **Employees of excellent electrical companies will give prompt service to customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 11 | **Employees of excellent electrical companies will always be willing to help customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 12 | **Employees of excellent electrical companies will not be too busy to respond to customer requests.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 13 | **The behavior of employees of excellent electrical companies will build confidence in customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 14 | **Customer of excellent electrical companies will feel assured of their applications processing.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 15 | **Employees of excellent electrical companies will be consistently courteous to customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 16 | **Employees of excellent electrical companies will have the knowledge to answer customer questions.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 17 | **Excellent electrical companies will give customers individual attention.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 18 | **Excellent electrical companies will have operating hours convenient to all their customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 19 | **Excellent electrical companies will have employees who give customers personal attention.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 20 | **Excellent electrical companies will have the customer's best interests in mind.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 21 | **The employees of excellent electrical companies will understand the specific needs of their customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |

## PART 2:

Rate the following statements as applicable to SCECO-East. If you feel what is stated rarely occurs, you can circle "1", circle "7" if you feel what is stated frequently occurs. If your feelings are less strong, circle one of the numbers in the middle

| S.N | Statement | Low High<br>1 2 3 4 5 6 7 |
|---|---|---|
| 01 | **Improvement research / studies .** | ◯ ② ③ ④ ⑤ ⑥ ⑦ |
| 02 | **Implementation of results of improvement research / studies .** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 03 | **Degree to which improvement research study focuses on service quality issues.** | ◯ ② ③ ④ ⑤ ⑥ ⑦ |

| | | |
|---|---|---|
| 04 | **Extent of direct interaction between managers and external customers .** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 05 | **Extent of managers to employees communication** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 06 | **Extent to which inputs from personnel in contact with customers are taken in consideration.** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 07 | **Quality of contact between top managers and personnel in contact with customers.** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 08 | **Number of layers between personnel in contact with customers and top managers .** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 09 | **Resources commitment to quality .** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 10 | **Existence of internal quality programs.** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 11 | **Management recognition for quality commitment .** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 12 | **Existence of a formal process for setting quality of service goals .** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 13 | **Use of technology to standardize operations .** | ○ ② ③ ④ ⑤ ⑥ ⑦ |
| 14 | **Capabilities / systems for meeting specifications** | ① ② ③ ④ ⑤ ⑥ ⑦ |
| 15 | **Extent to which managers believe consumer's expectations can be met .** | ① ② ③ ④ ⑤ ⑥ ⑦ |

## PART 3 :

1- **Rate the gap between SCECO-East managers in understanding / knowing customer expectations .**

**Low** ① ② ③ ④ ⑤ ⑥ ⑦ **High**

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2- **Your Management level :** ☐ Department Head ☐ Division Head ☐ Others_____

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3- **Years of Experience :** ☐ 1 - 5 ☐ 6 - 10 ☐ 11 - 15 ☐ More than 15 .

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4- **Age :** ☐ 25 - 30 ☐ 31 - 40 ☐ 41 - 50 ☐ More than 50 .

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5- **Remarks**

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# NOMENCLATURE

| | | |
|---|---|---|
| amps | : | Amperage |
| BCP | : | Brown, Tom J.; Churchill, Gilbert; Peter J. |
| CS/D | : | Customer Satisfaction/Dissatisfaction |
| DOA | : | Dammam Operating Area |
| E | : | Expectation |
| HOA | : | Hassa Operating Area |
| MW | : | Mega Watts |
| NOA | : | Northern Operating Area |
| OA | : | Operating Area |
| PZB | : | Parasuraman, Zeithaml and Berry |
| SCECO-East | : | Saudi Consolidated Electric Company in the Eastern Province |
| SERVQUAL | : | Service Quality Instrument |
| SQ | : | Service Quality |
| SSI | : | Standard Service Index |
| SWCC | : | Saline Water Conversion Corporation |
| P | : | Perception |
| TQM | : | Total Quality Management |
| TPS | : | Total Perceived Service |
| WOM | : | Word of Mouth |

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# VITA


| | | |
|---|---|---|
| NAME | : | HAMED A. AL-SAGGAF |
| BIRTH DATE | : | 1966-10-22 |
| NATIONALITY | : | SAUDI |
| MARITAL STATUS | : | MARRIED |
| CONTACT ADDRESS | : | P.O. Box 74, Dammam - 31411<br>Tel. No. 899-3770 (Residence)<br>864-8011 (Office)<br>(05) (5842152) (Mobile) |


## EDUCATIONAL QUALIFICATIONS:

1984 - 1989 : Bachelor of Science in Electrical Engineering From King Fahd University of Petroleum and Minerals (KFUPM), Dhahran.

1990 - 1994 : Master of Business Administration (MBA) From KFUPM, Dhahran.

1996 : Certified Cost Engineer (CCE); accredited by the American Association of Cost Engineers (AACE). The technical paper entitled "Problems Encountered in TQM Implementation" is submitted as a partial fulfillment of certification examination. Also, certified by the International Cost Engineering Council (ICEC).

(Summer)1988 : An extensive training in the wireline logging techniques with Schlumberger Company by the use of the resistivity, nuclear & acoustic tools.

## WORK EXPERIENCE:

1989 - 1999 : Ten years of experience in design, construction, operation and maintenance of electrical distribution systems and customer services

- Designing of electrical distribution projects, installation and commissioning of distribution systems as per SCECO-EAST standards.
- Preparation of complete scheme and drawings for electrification of new plot plans.

- HT/LT operation & maintenance of distribution equipment i.e. transformers, switchgears, panels, circuit breakers, unit stations ...etc.

## POSITIONS HELD AND NATURE OF WORK DONE:

1989 - 1992 : *Design Engineer.*

- Planning & design of distribution network.
- Preparation of the primary and secondary master plans, electrification of new plot plans, system improvement, calculation of load.
- Preparation of construction package, cost estimation, cable design.
- Preparation of operating & capital budget, material forecasting.

1992 - 1995 : *Senior Maintenance Engineer .*

- Maintenance Unit Head which supervises 3 segments: Substation Unit, Network Unit and Meter Rehabilitation Unit.
- Up keep and maintenance of all electrical equipments; switchgears, transformers and all HT/LT electrical installations.
- Assists the maintenance crews in implementation of approved standards, technical instructions and guidelines.
- Develops and coordinates maintenance programs for all maintenance units.
- Preparation of analysis reports for faulty equipments and recommended corrective actions.
- Provide vacation relief for O&M Superintendents.

1995 - 1999 : *Superintendent Engineering & Construction.*

- Supervise 3 Units; Engineering, Project Construction and Consumer Connections.
- Preparation of operating, business and capital plans; manpower and material forecast.
- Controlling expenditures, project cost estimates and contractor invoices.

## OTHER SPECIAL ASSIGNMENTS:

- Engineering Unit Head.
- Construction Unit Head.
- Superintendent O&M.
- District Office Manager.

## RESEARCH & TECHNICAL PAPERS:

| | | |
|---|---|---|
| 1990 | : | "The Operation and Performance of a Flourescent Light Dimmer Under Varying Voltage Conditions". It has been presented and published in the first Saudi Symposium on Energy Utilization and Conservation, King AbdulAziz University, Jeddah, 1990. |
| 1994 | : | "Improvements in Substation Maintenance and Inspection". It has been presented in the first TMAM-TQM conference at SCECO-EAST, Dhahran, 1994. |
| 1996 | : | "The Comprehensive Way to Understand and Apply Total Quality Management, Arabic book. |
| 1997 | : | "Application of TQM at SCECO-EAST: A case study" Journal of Quality in Maintenance Engineering, Vol. 3 No. 1, 1997, pp. 40-54, MCB University Press. |
| 1998 | : | "The Five Commandments of Construction Project Delay Analysis Process"; Cost Engineering Magazine, Vol. 40, No.4, April 1998, pp. 37-41. |

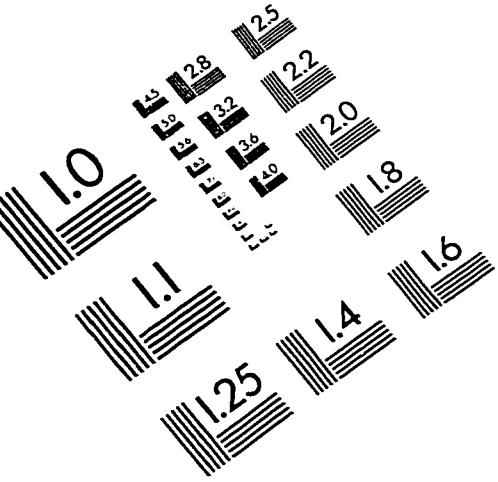
## PROFESSIONAL AFFILIATION:

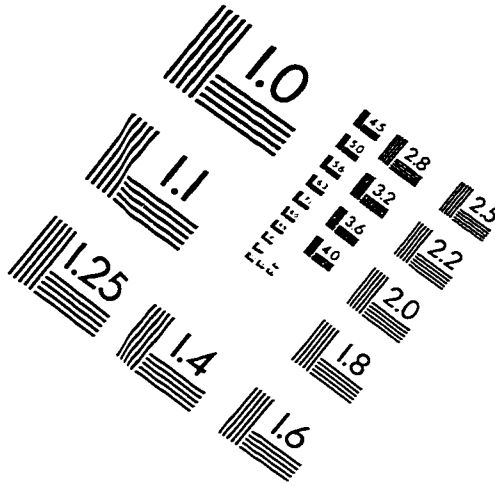
- Full member in a American Association of Cost Engineers (AACE International).
- Member in American Society for Quality (ASQ).
- Member in Saudi Arabian Quality Council (SAQC).
- Member in International Cost Engineering Council (ICEC).
- Listed in International "Who's Who" of Professional Management (1998).

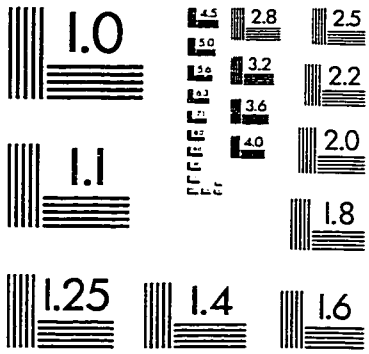
**SHORT COURSES:**

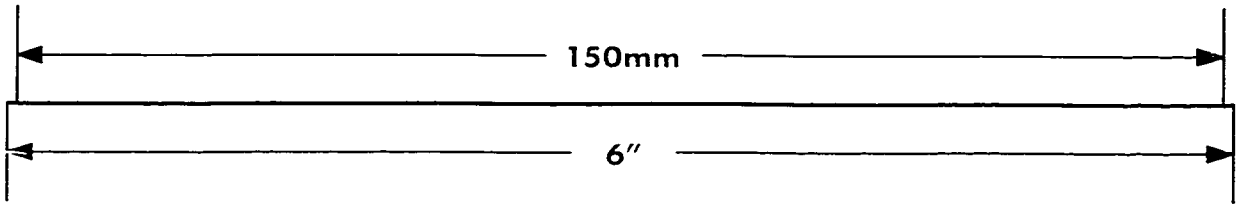
| COURSE NAME: | FROM YY/MM/DD | TO YY/MM/DD |
|---|---|---|
| 1.Time Management | 1990/02/19 | 1990/02/21 |
| 2.Managing Interpersonal Relationship | 1990/08/25 | 1990/08/29 |
| 3.Introduction to Pesonal Computers | 1991/01/12 | 1991/01/16 |
| 4.Craft Appreciation for Engineers | 1991/04/20 | 1991/06/05 |
| 5.Advanced Personal Computers | 1991/09/09 | 1991/10/02 |
| 6.Expective Leadership Course | 1992/01/26 | 1992/01/29 |
| 7.Dist. Technology & Practice for Engineers | 1992/03/07 | 1992/03/11 |
| 8.Better Business Writing | 1992/05/30 | 1992/06/03 |
| 9.Meeting Skills | 1992/11/14 | 1992/11/18 |
| 10.Grounding | 1993/02/27 | 1993/03/03 |
| 11.Effective Oral Communication | 1993/08/08 | 1993/08/11 |
| 12.Company Policies & Procedures | 1993/12/25 | 1993/12/29 |
| 13.Planning & Budgeting | 1994/06/04 | 1994/06/08 |
| 14.Conducting and Effective Safety Meeting | 1994/06/25 | 1994/06/25 |
| 15.TQM (Team Leader's Course) | 1994/07/04 | 1994/07/06 |
| 16.Personal Computer Application | 1994/09/17 | 1994/09/25 |
| 17.An Introduction to Value Engineering | 1994/10/13 | 1994/10/13 |
| 18.An Introduction to Project Management Software | 1994/11/10 | 1994/11/10 |
| 19.Maintenance Planning & Scheduling | 1994/11/26 | 1994/11/29 |
| 20.Project Management & Cost Engineering | 1995/03/13 | 1995/06/26 |
| 21.First Line Supervisory Development Program | 1995/07/15 | 1995/07/19 |
| 22.Industrial Energy Conservation | 1995/07/22 | 1995/07/24 |
| 23.Building Empowerd Teams | 1996/03/16 | 1996/03/20 |
| 24.Managing Employee Performance | 1996/04/05 | 1996/04/08 |
| 25 Project Management | 1990/02/01 | 1999/02/03 |

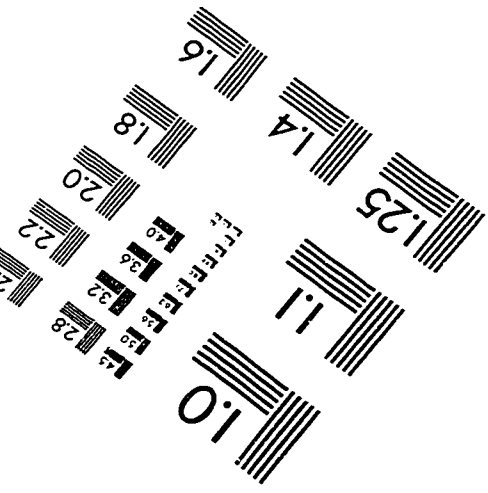
# IMAGE EVALUATION TEST TARGET (QA-3)

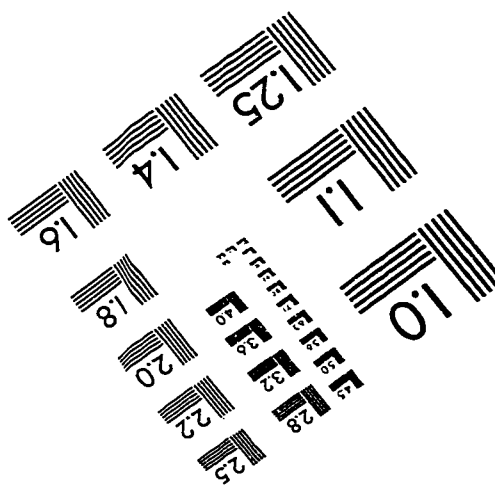
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